

A Wildlife Survey of the Pipar Sanctuary, Central Nepal
28 April - 5 May, 1998



Rahul Kaul and Suresh Shakya
1998

World Pheasant Association - South Asia Regional Office
Bird Conservation Nepal



SUMMARY

A call count exercise was conducted in the Pipar sanctuary of Annapurna Conservation Area, Central Nepal from 28 April - 5 May, 1998. Status of various species of galliformes was estimated from call counts and trail walks. We also obtained some measures of abundance for large mammal species found in the area.

*During this trip we recorded a fall in the number of Satyr Tragopans (*Tragopan satyra*) and Koklass (*Pucrasia macrolopha*) in the Pipar Bowl. We however attribute this decline to possible errors in counts during the last survey rather than the pheasant population having actually gone down so much.*

*There also appear to be a healthy population of ungulates like Ghoral (*Nemorhaedus goral*), Serow (*Capricornis sumatrensis*), Thar (*Hemitragus jemlahicus*) and the Barking deer (*Muntiacus muntjak*).*

There were negligible signs of anthropogenic disturbance in the area. This was likely to change when the nomadic graziers moved into the highland pastures in late May. Signs of burning were quite prevalent in many areas especially in grassy areas.

We suggest caution in opening the area for tourists and recommend extending protection to animals and habitats in the adjacent areas also.

ACKNOWLEDGEMENTS

We wish to acknowledge the contribution of our other team members who showed considerable enthusiasm despite the inclement weather and regular cold dawn call counts.

We also wish to thank the KMTNC and the ACAP for providing the necessary permission to carry out these surveys and also for deputing an official to the team.

We also wish to thank our supporting staff for making our stay comfortable throughout the trip even after the cook fled on the second day of our stay in Pipar.

Funds for the survey came from the World Pheasant Association.

The Team



The team minus Suresh Shakya (Photographer) and the supporting staff before leaving for Pipar

The team consisted of:

Name	Affiliation
1. <i>Suresh Shakya</i>	<i>Bird Conservation Nepal (BCN)</i>
2. <i>Ravi Pradhan</i>	<i>"</i>
3. <i>Bhuvan Thapa</i>	<i>"</i>
4. <i>Amrit Babu Karki</i>	<i>Forestry Institute, Pokhara / BCN</i>
5. <i>Anil Shrestha</i>	<i>"</i>
6. <i>Mahesh Khadka</i>	<i>"</i>
7. <i>Manoj Kumar Shah</i>	<i>"</i>
8. <i>Bidur Kuinkel</i>	<i>Annapurna Conservation Area Project (ACAP)</i>
9. <i>Man Bahadur.</i>	<i>World Pheasant Association (WPA)</i>
10. <i>Rahul Kaul</i>	<i>WPA-South Asia Regional Office</i>

1. INTRODUCTION

In its more than 20 years of involvement with Pipar, the World Pheasant Association (WPA) has been involved in a series of activities ranging from research, formation and the protection of the Pipar Sanctuary and aid to some schools in the region.

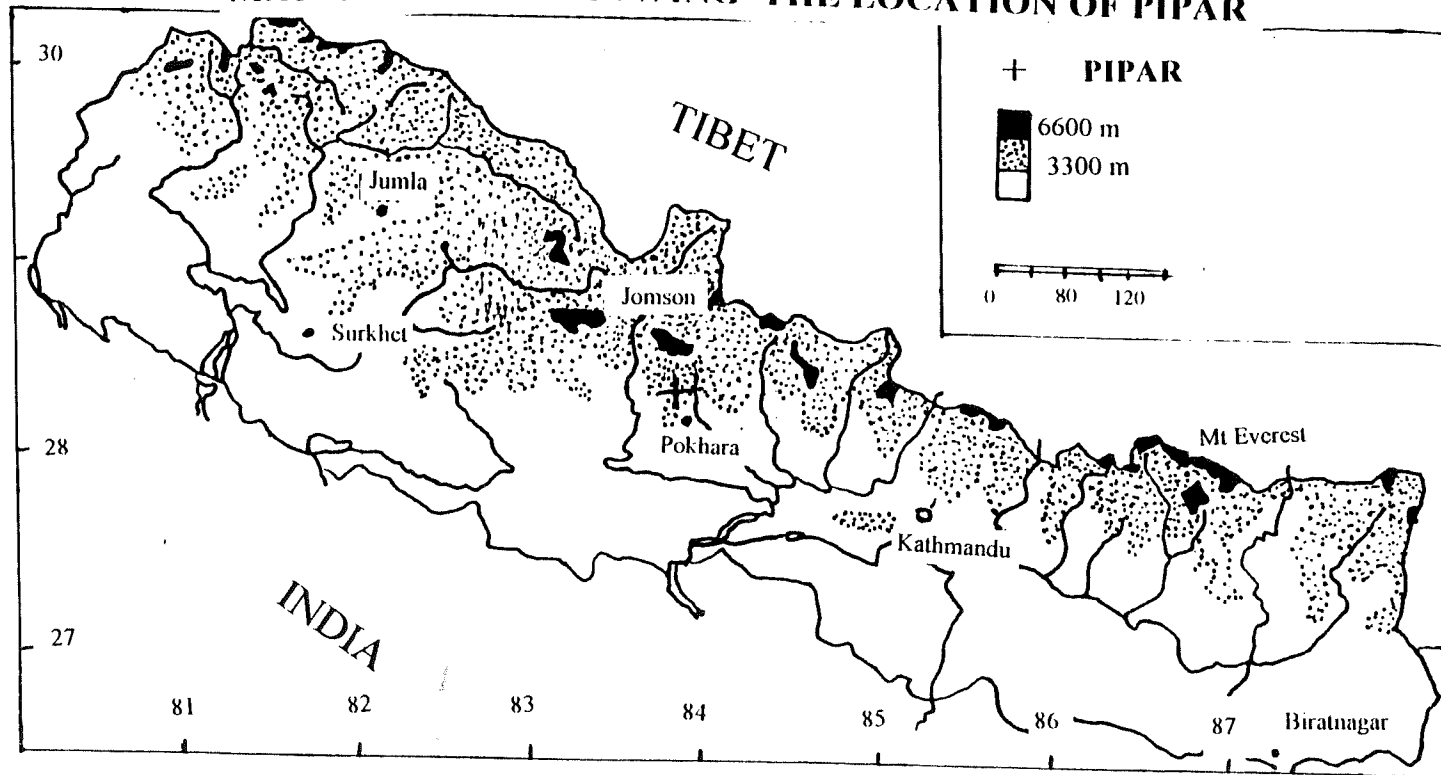
Over these years 5 galliform counts have been conducted in the Sanctuary apart from some more detailed studies on the ecology of pheasants in the area (Lelliott 1981, Lelliott and Yonzon 1980) and on the vegetation (Picozzi 1984). A management plan was also formulated by Forester and Lelliott (1982). The surveys have monitored the status of galliformes in the Pipar region and also made comments about other animal communities in the region.

With the formation of the Annapurna Conservation Area Project (ACAP), the role and inputs by WPA need to be reconsidered so that WPA becomes a useful partner in the conservation of this area.

WPA, in association with Bird Conservation Nepal conducted a survey in the Pipar region on 24 April -5 May 1998 with the aim of providing abundance estimates of various galliform species occurring in the area, notably the Satyr Tragopan (*Tragopan satyra*) and the Koklass (*Pucrasia macrolopha*). The main objectives of the survey were to:

- conduct call counts at the designated locations in the Pipar area.
- train nationals in field techniques.
- study the possibilities of future research in ACAP.
- discuss how WPA could assist ACAP and KMTNC authorities in wildlife research.

MAP 1 NEPAL SHOWING THE LOCATION OF PIPAR



2. STUDY AREA

Pipar is located on a steep ridge descending from the 6,990 m Machapuchare peak and forms the north western part of the Seti river catchment area. The locations and the extent of the sanctuary are described by Forester and Lelliott (1982). (see Map 1 & 2).

The Pipar 'bowl' which is a gentle depression approximately 1.5² km long and supporting 5 pheasant species has been a subject of intensive ecological investigations in the past. (Lelliott 1981, Lelliott and Yonzon 1980). This area is located at an altitude of 3,200 m but provides a diverse altitudinal gradient from roughly 2,800 m to 4,000 m and more, and also habitat for species like Himalayan Snowcock (*Tetraogallus himalayensis*), Snow Partridge (*Lerwa lerwa*) on the higher elevations and Nepal Kalij (*Lophura leucomelana*) and various Partridge and Francolin species on the lower elevations in addition to those found in the Pipar bowl.

This east facing slope is covered with a predominantly mixed temperate forest mainly of *Quercus* sp., *Sorbus* sp., *Rhododendron* spp. with adequate ground cover comprising Ringal bamboo (*Arundinaria* spp.), *Viburnum* sp. and *Berberis* sp. Details about the vegetation of Pipar can be obtained from Picozzi (1984).

The area appears to be under threat from only one side i.e. the southern side of the sanctuary which is also the approach and dotted is with a few villages. There is a little used trail (used only by nomadic graziers) leading from the villages to the Pipar area. Pressures caused by the graziers and their flocks have not been quantified and warrants a study.

3. METHODS

We followed the standard methods for determining abundance of both galliformes and mammals within the Pipar sanctuary. For call counts, we tried to follow as closely as possible, methods used by earlier teams to make our data comparable with earlier surveys.

1. Call Counts: On previous occasions (Howman and Garson 1992), 4 Survey points were used to monitor the main basin. Two more points (5 & 6) were also added through previous surveys

although these have been left out of comparisons in the earlier reports. We surveyed points 1-4 but found point No. 3 to be superfluous as it could be adequately covered from point 4. We therefore covered points 1, 2 & 4 in the main basin. In addition, we monitored points 5 and 6, (map 3). The monitoring of these 2 points has added further area for which new birds have been counted. To see how the galliformes were distributed across the altitudinal gradient, we also monitored 3 points near Thullo-Khobang at 2,500 m.

Observers were familiarised with the calls of different galliform species in the field in a demonstration on the first morning. Procedures for data collection by call counts were also demonstrated so that on the second morning, 5 groups of observers could collect data independently. We followed methods suggested by Gaston (1980) to perform the call counts.

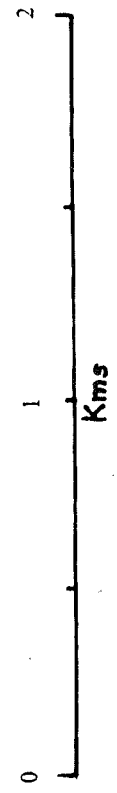
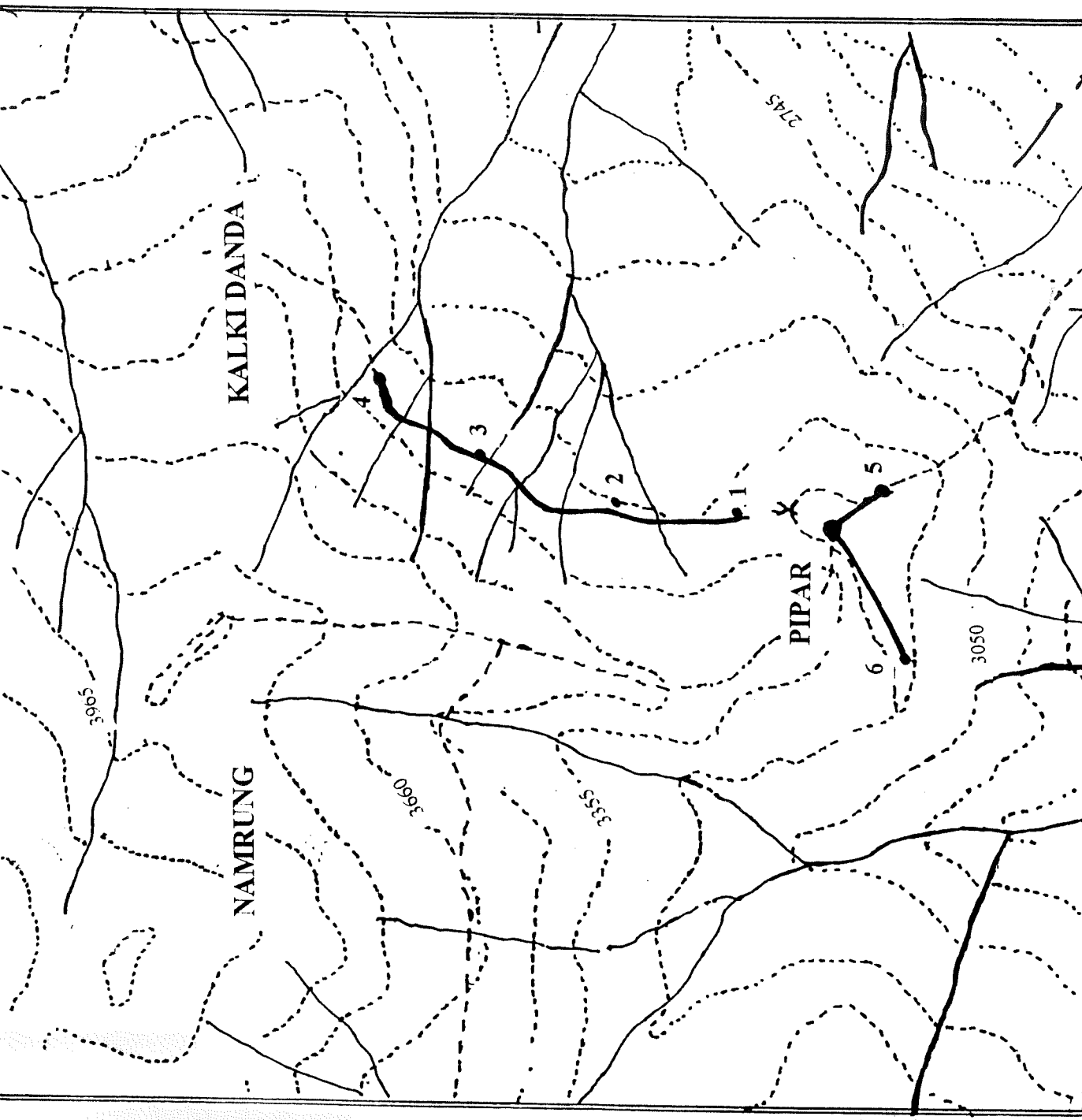
2. Trail Monitoring: The pre-existing trails were monitored by groups of observers in different habitat types to produce encounter rates for various species of galliformes and mammals. We also prepared a checklist of birds encountered during the survey.

4. RESULTS

a) Call Counts

Three species of galliformes v.i.z. Koklass, Satyr Tragopan and the Hill Partridge (*Arborophila torqueola*) were heard calling regularly. It was therefore possible to conduct a call count on these species. The Himalayan Monal (*Lophophorus impejanus*) was also heard calling but the calling was sporadic and not amenable to call counts. We did not hear any Blood pheasant (*Ithaginis cruentus*) calls.

Satyr Tragopan: We heard a total of 18 Satyr Tragopan groups from 5 observation points (actually representing 6 stations and including points 5 and 6). The number of Satyr Tragopans heard from observation points 1-4 was 12. This registered a decline of approximately (60%) in the Satyr population over the previous years (Fig. 1), especially over the last survey in 1991 (Howman and Garson, 1992). During this survey they had recorded an increase of 50% in the Satyr Tragopan over the 1987 survey (Picozzi 1987). We feel that in the last survey (Howman and Garson, 1992) counts might have been exaggerated due to double counts. We believe that figures



MAP 2 SHOWING PART OF THE PIPAR SANCTUARY WITH
THE CALL COUNT POINTS

obtained during the present survey provide a good representation of the abundance of Satyr in Pipar area during the duration of the survey.

Through our call counts, we covered approximately 2 km² area in which we heard a maximum of 18 calling groups on one morning (Table 1). This gives the Satyr a density index of 9 groups/km² in the Pipar area.

Comparing counts from different points with earlier surveys, there appears to be a consistency in most points (Appendix 1). Piccozi (1987) heard most of their birds from point 3. In our present survey we did not feel the need of monitoring point 3 since this point could be well covered from points 2 and 4. This point overlooks an undisturbed patch of Rhododendron forest and it is possible that the birds had for some reason concentrated there during 1987.

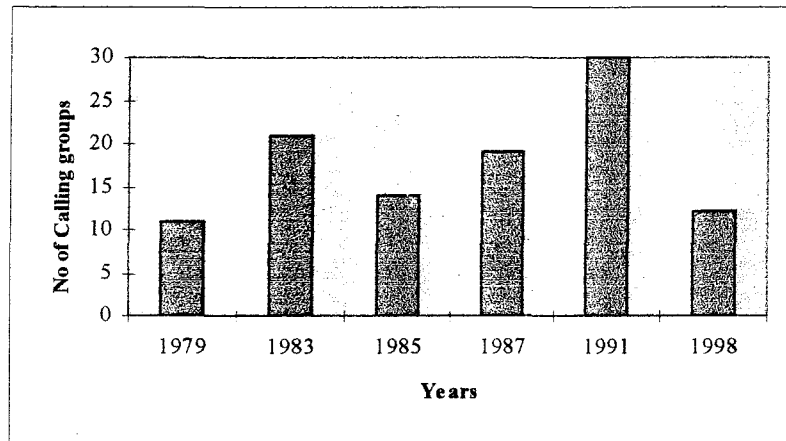


Fig. 1 No. of Satyr Tragopan groups heard calling at points 1-4 in Pipar, Nepal during different surveys

It is not clear whether points 5 and 6 were monitored at all in those surveys. While point 5 covers parts of point 1 and we did not hear many birds from this position, point 6 was quite useful as 6 birds, not heard from any point between 1-4 could be heard.

Therefore we feel that in future surveys, points 4, 2, 1, 5 and 6 if monitored could cover the Pipar basin and the lower parts of the southern slope of Pipar adequately (see map). In case manpower precludes simultaneous monitoring of 5 points, point No. 1 can also be omitted and it can be monitored from points 5 and 2.

We also conducted call counts for two mornings in Thullo Khobang (2200m). From 3 call count points 2 Satyr Tragopan callers were heard. Both these calls came from above the call count positions indicating that there were no Satyr below that altitude.

Koklass: Koklass also registered reduced calling over the previous surveys. We recorded 10 Koklass calling groups from points 1-6 and only 8 from points 1-4, which is less than half of what had been heard in the survey of 1991 (Howman and Garson 1992). Our figures are the lowest for any surveys conducted thus far (Fig. 2)

In 1995, a call count conducted in October had registered 10 Koklass from positions 1-3 (Kaul, 1995). Considering that calling can only be less in October than in spring, it does appear that we heard less Koklass than would have been expected. We estimate a density index of 5 calling groups/km² in the approximately 2 km² area which we covered during our call counts.

From the three call count positions in Thullo-Khobang, we could hear only one Koklass caller, again indicating that most of the Koklas were occupying higher altitudes at this time of the year.

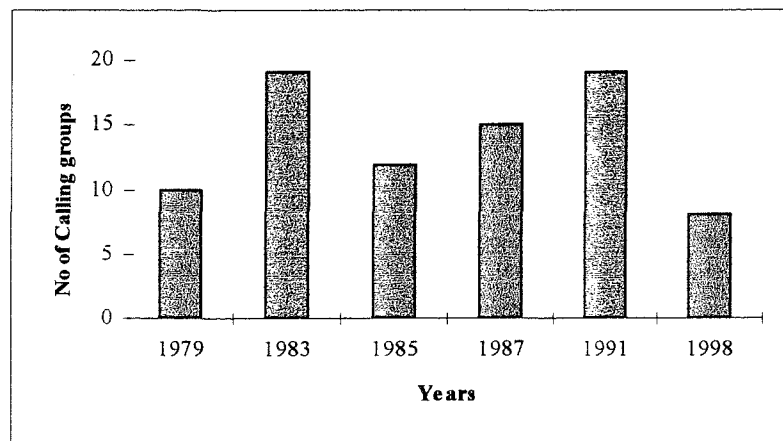


Fig 2. Number of Koklass groups heard calling at points 1-4 in Pipar, Nepal during different surveys

Hill Partridge: Earlier reports (Piccozi 1987), have mentioned about the occurrence of the Hill Partridge in Pipar but have presented no figures. Therefore there is no basis for comparisons. From the 4 call count points (representing points 1-6), we heard a maximum of 15 Hill Partridge on one particular morning at a density index of 7.5 calling groups/km².

In Thullo-Khobang also we heard 6 Hill partridge from 3 call count stations including 4 from point 3, which was about 50 mts lower than the camp site suggesting that they were distributed through out the altitudinal gradient.

We also heard some calls of Himalayan Monal but their calling was brief and irregular to allow any computation of their abundance.

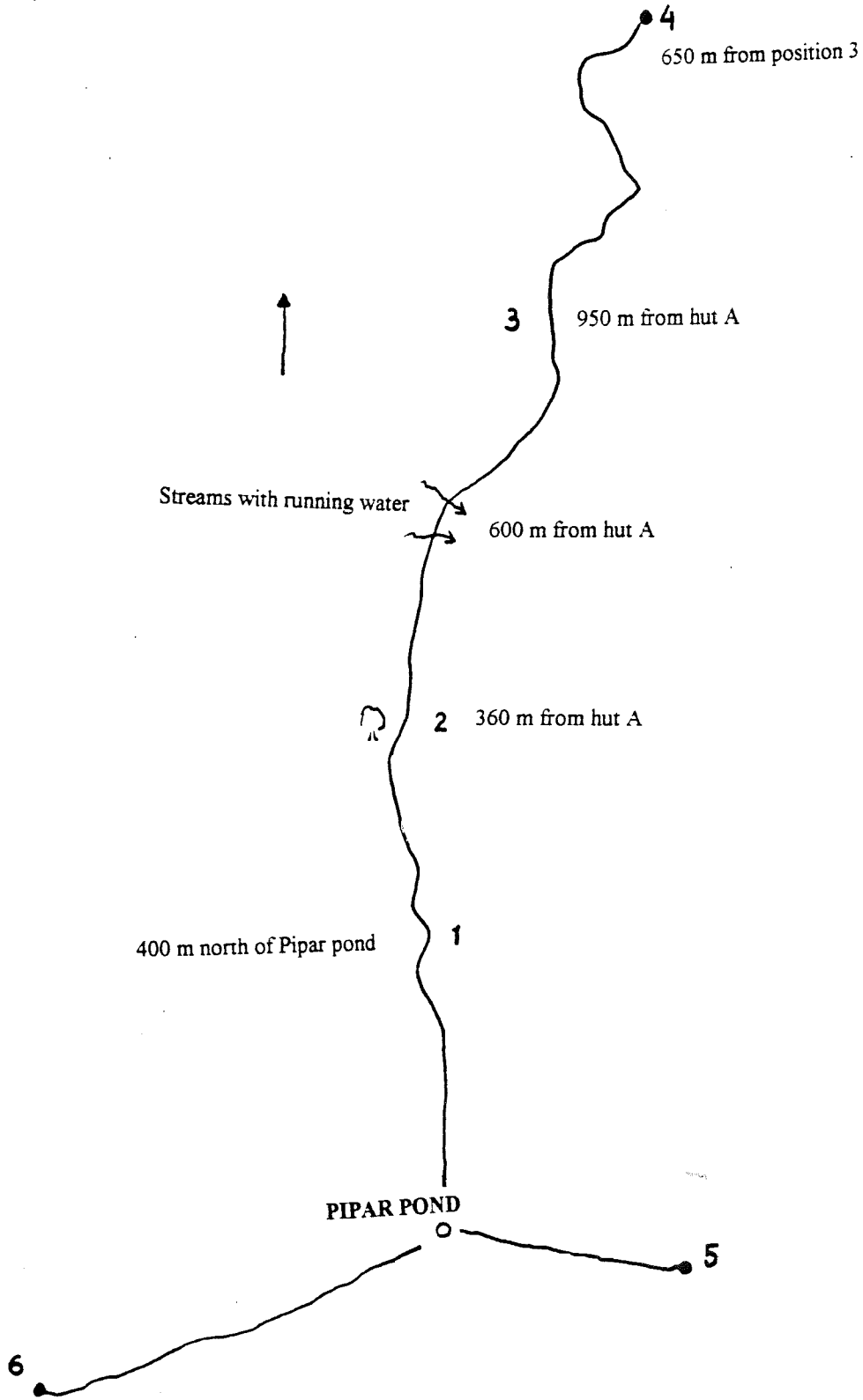
b) Encounters

i) Galliformes

In addition to call counts, we also conducted trail walks to work out encounter rates of some major animal taxa.

Himalayan Monal: This pheasant was encountered 10 times during the survey. In all 15 birds we sighted (8 males & 7 females), all between 3300 - 4,100m altitude. Most sightings (8) occurred in grassy areas and the rest (2) in Rhododendron forests adjoining the grasslands. This pheasant probably by virtue of its high visibility and flushing behaviour recorded the highest encounter rate (Table 1).

Satyr Tragopan: This species was seen thrice, mainly in the Rhododendron forests or close to it. It was mainly seen at an altitude of 3,300 m especially when on forest trails. This species is known to be shy and is not easily seen in its forested habitat. It registered an encounter rate of 10.3 groups/ 100 party hours of effort and only 3 individuals of this species were seen, all being males.



**MAP 3 SHOWING LOCATION OF EACH CALL COUNT POINT IN
PIPAP PHEASANT RESERVE, NEPAL**

Hill Partridge: Ten individuals of this species were seen at altitudes varying from 2200-3,600m. All observations (5) except one occurred in forested areas. This species was encountered at the rate of 17.1 groups/ 100 party hours.

Table 1: Encounter rates of some galliform species in Pipar Pheasant Sanctuary, Nepal,

Species	No. of Individuals	No. of Encounters	Observer effort (Party hours)	Encounter Rate (groups/100 Party hours)
H. Monal	15	10	41.08	24.3
S. Tragopan	3	3	29.2	10.3
Hill Partridge	10	5	29.2	17.1

Koklass: One Koklass individual was also seen on the first day of the camp at Pipar at an altitude of 3340 m. Although heard through the rest of the survey, this species was never sighted subsequently.

Chukar (*Alectoris chukar*): This species was heard and sighted twice in Pipar, on both occasions above 3400 m. There is no mention of this species from Pipar in the earlier reports.

Rufousthroated Partridge: (*Arborophila rufogularis*) : Calls thought to be those of the Rufousthroated Partridge were heard from Diphrang area (1,500m). However a visual confirmation of these birds is required.

Black Francolin: Calls of the Black Francolin (*Francolinus francolinus*) from the Ghachock area, outside the sanctuary were heard.

Kalij: We could not encounter any Kalij although they are known to occur in the lower areas of the Sanctuary.

Other Birds: In all we sighted and in some cases heard only, 152 species of birds belonging to 92 genera from 29 families (see appendix). We divided our bird list into two main groups based on altitude. In the lower altitude zone (approx. 900-2500m) we encountered 109 species where as

in the high altitude areas mainly in Pipar camp and its surroundings (3300 m) we were able to identify 74 speceis. Thirty five species were common to both these altitude zones.

ii) Mammals

Himalayan Thar (*Hemitragus jemlahicus*): This species was never actually seen but droppings suspected to have come from Tahr were found at a few places especially areas above the campsite.

Ghoral (*Nemorhaedus goral*): Ghoral was seen five times during the survey with a total of 6 individuals {encounter rate of 12.2 groups/100 party hours). All these sightings were restricted to the grassland habitats which Ghoral are known to frequent and occured above 3,300m. altitude.

Barking Deer (*Muntiacus muntjak*): This species was seen only once in the Thullo Khobang area (2200m) in lowere temperate forest..

Pika (*Ochotona roylei*): Once seen above Thullo-Khobang 2400m.

Hoarybellied Himalayan Squirrel (*Callosciurus pygerythrus*) : Seen twice below Thullo-Khobang area.

5. DISCUSSION

The variation in the number of pheasants heard in Pipar over the last six surveys appear to be more due to differences in perceptions of calling groups between different survey groups. There appears to be no damage to habitat and apparently, little hunting/poaching of galliformes takes place. The figures from call counts even though being lowest in this survey are still healthy in terms of the density indices when compared with other areas. We, however, did hear fewer Koklass than were expected from earlier figures and feel that this might be due to lesser calling of Koklass this year. It may be possible to comment on whether there has actually been a decline Koklass numbers only after call count estimates are obtained from a survey in future.

To offset variations in call counts due to human factors we suggest that continuity is maintained by sending one or 2 people with prior experience of Pipar for survey. It is desirable to stop call counts 15-20 minutes after hearing the first call for a given species. We observed that all birds can be counted during that initial period of the chorus and in subsequent bouts birds are prone to change their position according to other callers which may erroneously add more birds to the counts. We believe that a similar bias might have been introduced during the last survey and the figures for Satyr Tragopans and Koklass are double counts of the same bird because the duration of the call counts is long.

The present area of call counts is close to the upper altitudinal range limit of Tragopans and Koklass and it would be revealing to see how they are distributed lower down. Our counts around Thullo-Khobang demonstrate that they are not found lower than Thullo-Khobang in spring and therefore the most promising altitude to conduct more call counts would be some where higher than this altitude. A trail/transect may be laid at 2600-2700m and call counts should be conducted from vantage points along this trail to sample Tragopans and Koklass in the middle -higher temperate forests also.

Heavy fog throughout the duration of the survey made it difficult to locate more galliformes (Snowcocks and Snow Partridge) at higher altitudes. We also could not find any evidences of Kalij which are known to occur at lower altitudes, closer to the village. This species might be at a risk of being poached especially in areas which are close to habitations.

Evidences of the presence of ungulates in the area were high and we might have been able to sight more (Tahr, Serow, Blue sheep etc) had the fogs lifted. However going by the evidences, we believe that there is a good abundance of Ghoral, Tahr and Serow in the Reserve.

We feel that pheasants and other galliformes are generally safe in Pipar and exist in healthy populations. However, counts in the middle altitude forests will reveal a truer picture of the Pipar Pheasant Reserve.

6. RECOMMENDATIONS

On the basis of our present surveys and the ones done in the past, we feel capable of making some recommendations concerning the Pipar area.

1. Future Research: Monitoring programmes in Pipar should continue and future surveys should include areas in the mixed forests from 2200m - 2900m. The best way to count pheasants in this altitudinal range would be to lay permanently identifiable call count points along a trail at approximately 2700-2800m. Data from the two altitude zones i.e. the existing one at 3200 m and the new suggested one at 2800 m would provide more useful data on the overall population of galliformes in Pipar.

The role of Pipar in any future wildlife research initiatives in ACAP area (especially areas east of Kali Gandaki river) can not be undermined. There is great scope to use Pipar area as a "control" where some form of protection has been afforded over the last two decades, in an effort to compare biodiversity with other, more disturbed sites within ACAP.

We feel that systematic research should be started in other areas of ACAP so that more areas in ACAP region are monitored. Two areas that need immediate surveys are the Khumai and Korchan areas of the Pipar Pheasant Sanctuary and the forested areas north of Nanhe Khola above the village of Santal (see map) on the eastern side of river Seti. Surveys in these areas should be started soon for reasons discussed below (see wildlife tourism).

2. Wildlife Tourism in Pipar: In line with the ideology of making "wise use" of natural resources, ACAP is considering opening up Pipar for wildlife tourism. Whereas the concept is good because it makes the locals living close to the reserve realise the importance of wildlife and good natural habitats as they are expected to benefit from this activity, the area should be opened to tourism gradually. There are however, some inherent problems which need to be addressed. Some of these are:

a) Human Pressure: Tourism is bound to bring its attendant pressures of anthropogenic nature. Strict regulations will therefore have to be exercised on the entry of tourists into the Sanctuary. Numbers may be regulated according to the season (less during the breeding season) and permits

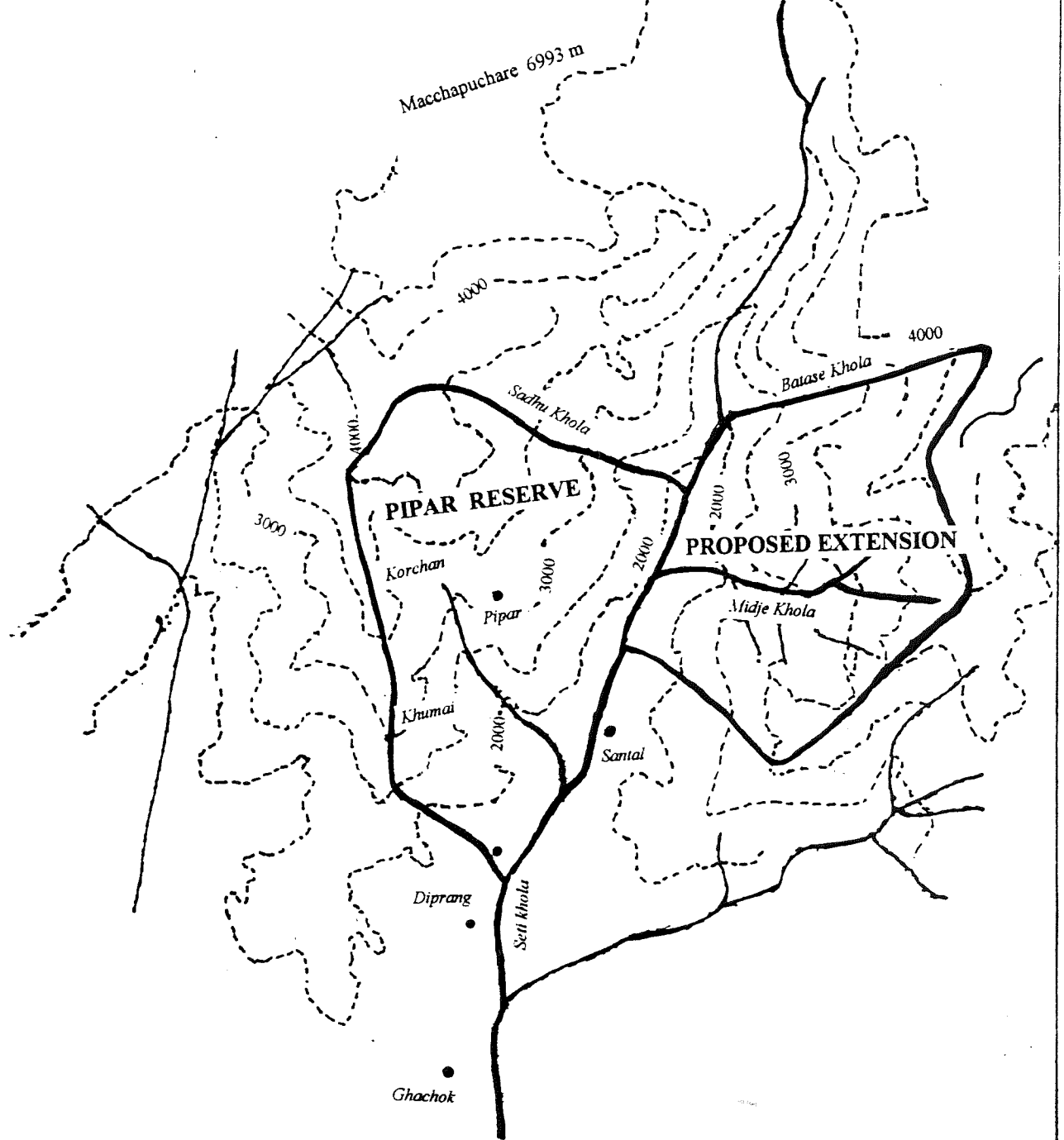
to visit these areas may also be priced accordingly (more expensive in the breeding season). Affects of tourism on Pipar should be monitored regularly and threshold limits for the Park set so that if these limits are approached, tourism is suspended in this area and shifted elsewhere.

Tourism in other ACAP areas is fairly regulated with minimal dependence on natural resources. Since bulk of tourism in this area is regulated through recognised Travel Agencies these treks also could be organised through such agencies with responsibility of following the norms laid out by ACAP falling on the Agency. It must be made mandatory for all treks to be accompanied by a representative from ACAP to report back on any breach of regulations.

b) Infrastructure: Pipar does not have any infrastructure which is usually expected in tourist areas. There are no tracks, accommodation or even temporary shelters. We suggest that minimum development on this front occurs and such development is limited to identification of a few camping sites. Only these identified sites may be used for camps. Tracks should not be developed as the existing ones will improve with regular use. Construction of rest houses or dormitories or eateries within the park should be discouraged at least in the initial stages, as such facilities will work against efforts to regulate traffic in the park.

c) Local communities: Such treks are generally organised from bigger towns like Kathmandu and Pokhara which leaves very little role for people belonging to the local communities. Regulations should be formulated so that maximum benefits accrue to the local communities so that they feel that safeguarding their environment is a reason for improvement in their living either by way of an entry tax levied on the trekkers or by providing suitable income generation opportunities for locals (guides, porters, exhibition of handicrafts etc.).

d) Alternate sites: As mentioned earlier, tourism is bound to bring in pressures on this area. Therefore alternate routes need to be developed so that pressures are equally distributed. Regions like Khumai and Korchon need to be included in this scheme. Treks starting from Karua could go through Pipar and end up in the Mardi Khola on the Annapurna Circuit



MAP 4 SHOWING THE EXISTING PIPAR SANCTUARY ON THE WEST BANK OF RIVER SETI AND THE PROPOSED EXTENSION ON THE EAST BANK.

3. Extension of Pipar: The Pipar sanctuary as demarcated by Forester and Lelliott (1982) stands at 4600 hectares (46 km²) and mainly comprises the areas to the west of Seti and above the villages of Mirsa and Karua. In the event of this area coming under wildlife tourism, there is need to identify and protect a similar area. There is a vast expanse of forest on the eastern side of the Seti River, which could be considered for this purpose. Whereas it is feasible and necessary to demarcate the southern boundary of this extension, there is no need to be exact on the northern side as altitudes reach over 6000m and beyond Santal northwards, there is negligible human population. Such areas in the north provide links between the two parts of the forest which are otherwise separated by the Seti river. (Map 3) However before considering extension of this area, a survey must be conducted to document the important biodiversity elements in this area before taking the next step.

4. WPA and Pipar: The support from WPA over the last 2 decades has come mainly through scientific inputs, assistance in creation and protection of the Park and later assistance to locals in education mainly through development and aid to the schools. This has had its desired effect in that the Park has healthy populations of animals, the school initiated by WPA has been recognised by the government and has provided salaries to 3 teachers.

ACAP as of now have no forest guards. Therefore there is practically no patrolling in forest/wildlife areas. Therefore, the guard paid by WPA assumes importance since he is the only of that kind in the area. The ACAP are considering employing some guards in future but this may still take time. It might be desirable to make the WPA guard answerable to the ranger employed by ACAP. This provides a mechanism where the WPA guard becomes accountable. In case fresh areas on the eastern side of Seti are to be surveyed, it might be a good idea to send the WPA guard along with some ACAP staff for a reconnaissance trip before a scientific survey is conducted.

The project seems to have reached a point where WPA would like to assess the future possibilities, by producing a strategic conservation Action Plan for the area. Within this the level of WPA's future contribution and involvement could be gauged.

7. REFERENCES

- Forester, J.A. and Lelliott, A.D. 1982 *Pipar Wildlife Reserve Nepal: Management proposals*. Unpub. report to the World Pheasant Association.
- Gaston, A.J. 1980 Census techniques for Himalayan pheasants including notes on individual species. *J. World Pheasant Ass.* 5:40-53.
- Howman, S. and Garson, P.J. 1993 Pheasant surveys at Pipar Nepal (1979-91). Abstract and Poster *In* Jenkins, D. (Ed.) *Pheasants in Asia 1992*. World Pheasant Association, Reading, U.K.
- Kaul, R. 1995 Report on visit to Nepal, 9-23 October, 1995. *Annual Review of the World Pheasant Association 1994/95* pp 35-39.
- Lelliott, A.D. 1981 *Studies of Himalayan pheasants in Nepal with reference to their conservation*. Unpub. MSc. thesis Durham University.
- Lelliott, A.D. and Yonzon, P.B. 1980 Studies of Himalayan Pheasants in Nepal. *J. World Pheasant Ass.* 5: 11-30.
- Picozzi, N. 1984 *An ecological survey of a proposed reserve for Himalayan pheasants at Pipar, Nepal in November 1983*. I.T.E. Scotland. Unpub. mimeo.
- Picozzi, N. 1987 *Pipar pheasant Trek, April 1987*. Unpublished report to World Pheasant Association.

Appendix 1

Counts of calling Satyr Tragopan in Pipar, Central Nepal

Species/date	Source	Location				Corrected Count for locations 1-3 (1-4)	Additional locations
		1	2	3	4		
21.5.79	Lelliott 1981	3	4	7	5	(10)	-
23.5.79		3	5	6	6	(10)	-
1.5.80	Lelliott 1981	-	-	7	5	-	-
29.4.81	Tamarkar and Lelliott 1981	?	?	?	?	(13)	-
19.5.82	Yonzon 1982	?	?	?	?	(8)	-
28.4.83	Roberts in Litt	?	?	?	?	(16)*	-
12.5.85	W.P.A. Party	5	4	6	-	9	2
13.5.85		6	3	6	-	11	3
14.5.85		-	-	9	8	9+ (13+)*	-
16.5.85		4	4	8	10	9 (14)*	3
19.4.87	Picozzi 1987	5	3	13	5	13 (15)	
20.4.87		5	4	14	3	14 (16)	
21.4.87		3	5	14	-	16	
23.4.87		5	6	15	5	15-17 (19-21)	
20.4.91	Howman & Garson 1993	3	3	1		7	
21.4.91		10	6	5		16	
22.4.91		7	6	7	10	20 (30)	
23.4.91		0	4	7	5	10 (5)	
30.4.98	Kaul & Shakya 1998	4	5	-	-		4 (5)
1.5.98		6	6	-	6	8 (12)	
2.5.98		-	8	-	6	8 (12)	2(5) 4(6)
3.5.98		-	6	-	7	6(11)	4(5), 5(6)

Appendix 2 (Birds of Pipar Sanctuary)

<i>PHASIANIDAE</i>		<2200m >2200m	
1 Chukar	<i>Alectoris chukar</i>	-	+
2 Black Francolin	<i>Froncolinus francolinus</i>	+	-
3 Hill Partridge	<i>Arborophila torqueola</i>	-	+
4 Rufousthroated Partridge	<i>Arborophila rufogularis</i>	+	-
5 Himalayan Monal	<i>Lophophorus impejanus</i>	-	+
6 Koklas	<i>Pucrasia macrolopha</i>	-	+
7 Satyr Tragopan	<i>Tragopan satyra</i>	-	+
 <i>PICIDAE</i>			
8 Greyfaced Woodpecker	<i>Picus canus</i>	+	-
9 Scalybellied Woodpecker	<i>P.squamatus</i>	-	+
 <i>MEGALAMIDAE</i>			
10 Great Barbet	<i>Megalaima virens</i>	+	+
11 Bluethroated Barbet	<i>Megalaima asiatica</i>	+	-
12 Goldenthroated Barbet	<i>Megalaima franklinii</i>	+	-
 <i>ALCEDINIDAE</i>			
13 Common Kingfisher	<i>Alcedo atthis</i>	+	-
 <i>DACELONIDAE</i>			
14 Whitethroated Kingfisher	<i>Halcyon smyrnensis</i>	+	-
 <i>CUCULIDAE</i>			
15 Indian Cuckoo	<i>Cuculus micropterus</i>	+	-
16 Common Cuckoo	<i>Cuculus canorus</i>	+	+
17 Large Hawk-Cuckoo	<i>Cuculus sparverioides</i>	+	+

APODIDAE

18 House swift *Apus nipalensis* + -

STRIGIDAE

19 Tawny Owl *Strix aluco* - +
20 Collared Owlet *Glaucidium brodiei* + +

CAPRIMULGIDAE

21 Grey Nightjar *Caprimulgus indicus* - +
22 Indian Nightjar *Caprimulgus asiaticus*

COLUMBIDAE

23 Spotted Dove *Streptopelia chinensis* + -
24 Oriental Turtle Dove *Streptopelia orientalis* + ///

25 Emerald Dove *Chalcophaps indica* + +
26 Wedgetailed Green Pigeon *Treron sphenura* + -

CHARADRIIDAE

27 River Lapwing *Vanellus duvaucelli* + -

ACCIPITRIDAE

28 Black Kite *Milvus migrans* + -
29 Whiterumped Vulture *Gyps bengalensis* + -
30 Himalayan Griffon *Gyps himalayensis* + +
31 Egyptain Vulture *Neophron percnopterus* + -
32 Sparrow- Hawk *Accipiter nisus* + -
33 Crested Serpent Eagle *Spilornis cheela* + -
34 Shikra *Accipiter badius* + -
35 Goshawk *Accipiter gentilis* + -
36 Cinereous Vulture *Aegypius monachus* + -
37 Black Eagle *Ictinaetus malayensis* + -
38 Harrier sp. *Circus sp.* - +
39 Changable Hawk-Eagle *Spizaetus cirrhatus* + -
40 Mountain Hawk-Eagle *Spizaetus nipalensis* + -

FALCONIDAE

41 Common Kestrel *Falco tinnunculus* + -

ARDEIDAE

42 Cattle Egret *Bubulcus ibis* + -

43 Little Egret *Egretta garzetta* + -

EOPSALTRIIDAE

44 Greyheaded Canary-
Flycatcher *Culicicapa ceylonensis* + -

LANIIDAE

45 Rufousbacked Shrike *Lanius schach* + -

46 Black headed shrike *Lanius schach tricolour* + -

CORVIDAE

47 Eurasian Golden Oriole *Oriolus oriolus* + -

48 Maroon Oriole *Oriolus traillii* + -

49 Black Drongo *Dicrurus macrocercus* + -

50 Ashy Drongo *Dicrurus leucophaeus* + -

51 Bronzed Drongo *Dicrurus aeneus* + -

52 Rufous Tree Pie *Dendrocitta vagabunda* + +

53 Grey Tree Pie *Dendrocitta formosae* + +

54 Largebilled Crow *Corvus macrorhynchos* + +

55 Large Wood Shrike *Tephrodornis virgatus* + -

56 Scarlet Minivet *Pericrocotus flammeus* + +

57 Longtailed Minivet *Pericrocotus ethologus* + +

58 Yellowbellied Fantail *Rhipidura hypoxantha* - +

59 Spotted Nutcracker *Nucifraga caryocatactes* - +

60 Blue Magpie *Urocissa ornata* - +

MUSCICAPIDAE

61 Chestnutbellied Rock Thrush *Monticola saxatilis* + -

62 Blue Rock Thrush *Monticola solitarius* + -

63 Orangeheaded Thrush *Zoothera citrina* - +

64 Whitecollared Blackbird	<i>Turdus albocinctus</i>	+	+
65 Plumbeous Water Redstart	<i>Rhyacornis fuliginosus</i>	+	-
66 White Capped Redstart	<i>Chaimarrornis leucocephalus</i>	+	-
67 Rufousbellied Niltave	<i>Niltava sundara</i>	+	+
68 Little Pied Flycatcher	<i>Ficedula westermanni</i>	+	-
69 Ultramarine Flycatcher	<i>Ficedula superciliaris</i>	+	-
70 Black Redstart	<i>Phoenicurus ochruros</i>	-	+
71 Bluefronted Redstart	<i>Phoenicurus frontalis</i>	-	+
72 Blue Whistling Thrush	<i>Myiophonus caeruleus</i>	+	-
73 Scaly Thrush	<i>Zoothera dauma</i>		
74 Darkthroated Thrush	<i>Turdus ruficollis</i>	-	+
75 Oriental Magpie-Robin	<i>Copsychus saularis</i>	+	-
76 Verditer flycatcher	<i>Eumyias albicaudata</i>	+	-
77 Pied bushchat	<i>Saxicola caparata</i>	+	-
78 Grey Bushchat	<i>Saxicola ferrea</i>	+	-
79 Orangeflanked Bush Robin	<i>Tarsiger cyanurus</i>	-	+

STURNIDAE

80 Chestnut-tailed Starling	<i>Sturnus malabaricus</i>	+	-
81 Common Myna	<i>Acridotheres tristis</i>	+	-
82 Jungle Myna	<i>Acridotheres fuscus</i>	+	-

SITTIDAE

83 Whitetailed Nuthatch	<i>Sitta himalayensis</i>	+	+
-------------------------	---------------------------	---	---

PARIDAE

84 Blacklored Tit	<i>Parus xanthogenys</i>	+	-
85 Great Tit	<i>Parus major</i>	+	+
86 Greenbacked Tit	<i>Parus monticolus</i>	+	+
87 Simla Black Tit	<i>Parus rufonuchalis</i>	-	+
88 Greycrested Tit	<i>Parus dichrous</i>	-	+

AEGITHALIDAE

89 Blackthroated Tit	<i>Aegithalos leucogenys</i>	+	+
----------------------	------------------------------	---	---

HIRUNDINIDAE

90 Barn Swallow	<i>Hirundo rustica</i>	+	-
-----------------	------------------------	---	---

91 Redrumped Swallow	<i>Hirundo daurica</i>	+	-
----------------------	------------------------	---	---

PYCNONOTIDAE

92 Himalayan Bulbul	<i>Pycnonotus leucogenys</i>	+	-
93 Redvented Bulbul	<i>Pycnonotus cafer</i>	+	-
94 Striated Bulbul	<i>Pycnonotus striatus</i>	+	+
95 Black Bulbul	<i>Hypsipetes leucocephalus</i>	+	+
96 Mountain Bulbul	<i>Hypsipetes mccllellandii</i>	+	-

CISTICOLIDAE

97 Striated Prinia	<i>Prinia criniger</i>	+	-
--------------------	------------------------	---	---

SYLVIIDAE

98 Tickell's Leaf Warbler	<i>Phylloscopus affinis</i>	+	-
99 Lemonrumped Warbler	<i>Phylloscopus proregulus</i>	+	+
100 Ashythroated Warbler	<i>Phylloscopus maculipennis</i>	-	+
101 Greenish Warbler	<i>Phylloscopus trochiloides</i>	+	+
102 Western Crowned Warbler	<i>Phylloscopus occipitalis</i>	+	-
103 Largebilled Leaf Warbler	<i>Phylloscopus magnirostris</i>	+	-
104 Gray headed warbler	<i>Seicercus Xanthoschistas</i>	+	-
105 Chestnut-headed Ground Warbler	<i>Tesia castaneocoronata</i>	+	+
106 Greysided Bush Warbler	<i>Cettia brunnifrons</i>	-	+
107 Graycheeked Warbler	<i>Seicercus burkii</i>	+	+
108 Chestnutcrowned Warbler	<i>Seicercus castaniceps</i>	+	-
109 Yellowbellied Warbler	<i>Abroscopus superciliaris</i>	+	-
110 Blackfaced warbler	<i>Abroscopus schisticeps</i>	+	-
111 Greysided Laughing Thrush	<i>Garrulax caerulatus</i>	-	+
112 Spotted Laughing Thrush	<i>Garrulax ocellatus</i>	-	+
113 Blackfaced Laughing Thrush	<i>Garrulax affinis</i>	-	+
114 Streaked Laughing Thrush	<i>Garrulax lineatus</i>	+	-
115 Redheaded Laughing Thrush	<i>Garrulax erythrocephalus</i>	+	-
116 Striated Laughing Thrush	<i>Garrulax striatus</i>	+	-
117 Common Tailorbird	<i>Orthotomus sutorius</i>	+	-
118 Rufous Sibia	<i>Heterophasia capistrata</i>	+	+
119 Goldenbreasted Fulvetta	<i>Alcippe chrysotis</i>	+	+
120 Whitebrowed Fulvetta	<i>Alcippe vinipectus</i>	-	+
121 Golden Babbler	<i>Stachyris chrysaea</i>	-	+
122 Cutia	<i>Cutia nipalensis</i>	+	+
123 Chestnut-tailed Minla	<i>Minla strigula</i>	-	+
124 Blackthroated Parrotbill	<i>Paradoxornis nipalensis</i>	+	-
125 Brown Parrotbill	<i>Paradoxornis unicolor</i>	+	+

126 Stripethroated Yuhina	<i>Yuhina gularis</i>		
127 Whiskered Yuhina	<i>Yuhina flavicollis</i>	+	+
128 Whitebellied Yuhina	<i>Yuhina zantholeuca</i>	+	+
129 Rufousvented Yuhina	<i>Yuhina occipitalis</i>	+	+
130 Green Shrike-Babbler	<i>Pteruthius xanthochlorus</i>	+	-
131 Whitebrowed Shrike-Babbler	<i>Pteruthius flaviscapis</i>	+	-

NECTARNIIDAE

132 Blackthroated Sunbird	<i>Aethopyga saturata</i>	+	+
133 Greentailed Sunbird	<i>Aethopyga nipalensis</i>	+	-
134 Firebreasted Flowerpecker	<i>Dicaeum ignipectus</i>	+	+
135 Firetailed Sunbird	<i>Aethopyga ignicauda</i>	-	+

PASSERIDAE

136 Rosy Pipit	<i>Anthus roseatus</i>	-	+
137 Olivebacked Pipit	<i>Anthus hodgsoni</i>	+	+
138 Upland Pipit	<i>Anthus sylvanus</i>	-	+
139 Blyth's Pipit	<i>Anthus godlewskii</i>	-	+
140 Tree Sparrow	<i>Passer montanus</i>	+	-
141 Rufousbreasted Accentor	<i>Prunella strophiata</i>	-	+
142 Yellowhooded Wagtail	<i>Motacilla citreola</i>	+	-

FRINGILLIDAE

143 Common Rosefinch	<i>Carpodacus rubescens</i>	-	+
144 Whitebrowed Rosefinch	<i>Carpodacus thura</i>		
145 Darkbreasted Rosefinch	<i>Carpodacus nipalensis</i>	-	+
146 Pinkbrowed Rosefinch	<i>Carpodacus rodochrous</i>	-	+
147 Redheaded Bullfinch	<i>Pyrrhula erythrocephala</i>	+	+
148 Crested bunting	<i>Melophus lathamii</i>	-	+
149 Collared Grosbeak	<i>Mycerobas affinis</i>	-	+
150 Goldnaped Finch	<i>Pyrrhoplectes epauletta</i>	-	+
151 Plain Mountain Finch	<i>Leucosticte nemoricola</i>	-	+
152 Scarlet Finch	<i>Haematospiza sipahi</i>	+	-

(+)encountered , (-) not encountered