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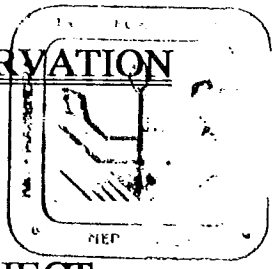
KING MAHENDRA TRUST FOR NATURE CONSERVATION

ANNAPURNA CONSERVATION AREA

BIO-DIVERSITY CONSERVATION DATA PROJECT



SUPPLEMENTARY COPY

OF

FINAL REPORT

(Appendix Volume I)

Prepared
By

Bio-diversity Conservation Data Project Team

Submitted
To

KING MAHENDRA TRUST FOR NATURE CONSERVATION

July 1994

HERPETOFAUNA:

Herpetofauna of the Conservation area shows a great variation describing a trend in the distribution of different species corresponding to the different zoogeographical zones. Reptiles were noted as far north as the Upper Mustang valley and amphibians were restricted more or less to the southern slopes.

Amphibians: Five families of amphibians represents the species richness in the area. In total 22 species were recorded or reported from all study sites. Toads and frogs were the most frequently observed and reported species. The family ranidae is known to have commercial value as it is frequently haunted for meat and medicine. Swan and Leviton (1962) presumes a variety of species suspected occur throughout Nepal and based on the description, several of the species has been assumed or suspected to occur within ACAP's limits. Shah (1991) reports of Nanhoe, Ouboter and Shah conducting an inventory study on herpetology of the Annapurna-Dhaulagiri region and describes about 22 species. Concurrent to their findings, amphibians are well represented in comparison to 36 species reported by Swan and Leviton (1962).

The following list follows classifications recruited by Swan and Leviton (1962), Leviton Myers and Swan (1956), Nanhoe and Ouboter (1987) and Shah (1991) for prescribing taxa. Eventhough there is hardly any recent descriptions of amphibians for the Conservation area, distribution and enumeration has been based on the above mentioned authors and the findings of this team. So far, 22 species from 8 genera and from 5 families has been identified to either occur or suspected to occur within the Conservation area.

FAMILY: MICROHYLIDAE

Microhyla ornata (Dumeril and Bibron)
Syn: *Engystoma ornatum*

Common Name: Orange narrow mouthed toad.
Record: Reported from eastern Nepal (Leviton, Myers and Swan 1956, Swan and Leviton 1962) and Annapurna-Dhaulagiri area (Nanhoe and Ouboter 1987). [Dhampus 1430 m, Naudanda 1550 m (Nanhoe & Ouboter 1981).]
Distribution: A Pan oriental species ranging through Pakistan, Kashmir, India, Central and Eastern Nepal, Assam, Burma, Southern China and Indo China. Distributed from China through Nepal to India. Recovered from wet debris underneath bushes (Leviton, Myers and Swan 1956).

FAMILY: BUFONIDAE

Bufo melanosticus Schneider

Common Name: Black spined toad
Records: Large sized toad measuring 129mm (Snout - Vent) length in female (Giri & Shah 1992). Reported

from eastern Nepal Leviton, Myers and Swan 1956, Swan & Leviton 1962, Shah and Giri 1992), Kathmandu or central Nepal (Swan & Leviton 1962). Specimens recovered from paddy field. Most common toad of Asia. [Dharapani 1580m, Dhampus 1800m, Indikhola 1250m, Bhurjung khola 1280m (Nanhoe & Ouboter 1981); Tatopani 1300m, Kande 1680m, Naudanda 1550m (Gruber & Fuchs 1973); Hogo 2000m, Ghandruk 2000m (BCDP 1994).]

Distribution: Common toad of Asia ranging throughout the himalayan chain into Thailand and adjoining area commonly ranging below 1800m (Nanhoe & Ouboter 1987) however recorded as high as 2000m (BCDP 1994).

Bufo himalayanus Gunther

Common Name: Toad

Records: Relatively large toad with snout vent length 110m (Shah & Giri 1992). Reported from west and central Nepal (Swan and Leviton 1962) and from east Nepal (Shah and Giri 1992). Hybrid of this species reported from Annapurna -Dhaulagiri range (Shah 1991) however it has been argued with finding of a new species resembling with it in the area, Shah (Pers. Comm.) believes it to be ***B. microtympanum***. Reported as high as 2320m (Swan and Leviton 1962). [Records in ACAP: Tatopani 1300m, Sikha 2020m, Dhampus forest 2030m, Tal 1640m (Nanhoe & Ouboter 1981); Ghasa 2050m, Kalopani 2450-2500m, Ghandruk forest 2300m (Gruber & Fuchs 1973); Ghandruk 2000m, Karuwa 1400m (BCDP 1994).]

Distribution: Himalayan species ranging through Himanchal Pradesh, Nepal, Sikkim/Darjeeling, usually replacing ***B. melanostictus*** above 2000m. Usually in forest clearing or areas below the forest line recorded as high as 2700m (Nanhoe & Ouboter 1987).

Bufo stomaticus Lutken

Common Name: Toad

Records: Small to medium sized toad with snout - vent length 56mm in males and 67mm in females. Reported from eastern Nepal (Shah and Giri 1992) and the Annapurna- Dhaulagiri range (Shah 1991).

[Records from ACAP: Naudanda 1400m (Gruber & Fuchs 1973); North from Pokhara 930m (Nanhoe & Ouboter 1981).]

Distribution: An Indian species ranging through western himalayas, Nepal, India, Pakistan usually occurring in valleys reasoned as accidental import by humans partial to cultivation, gardens, buffalo pools (Nanhoe & Ouboter 1987). Recorded as high as 1880m (Shah and Giri 1992).

Bufo microtympanum Boulenger

Common name: Toad

Records: [Karuwa-Seti River 1400m; New record for ACAP.]

Distribution: Distribution status unknown, Shah [Herpetologist,NHM](Pers. Comm.) describes this species as replacing the hybrid of ***B. himalayanus*** and ***B. melanostictus*** as described by Nanhoe and Ouboter (1987).

FAMILY: PELOBATIDAE

Megophrys parva (Boulenger)

Common Name: Spade toothed toad
Records: Reported from Sikkim, Darjeeling and West Nepal (Malla 1982). [Records from ACAP: Landrung 1630m, Dhampus 1900-1990m (Nanhoe & Ouboter 1981).]
Distribution: Indian species ranging through Central to eastern Nepal, Sikkim and Darjeeling and partial to subtropics and oak forests near stream in altitudes between 1230-2440m.

Scutiger alticola (Procter)
Syn: *Scutiger mammata*

Common Name: Spade toothed toad
Records: [4 Km SW of Muktinath 3600m, (Nanhoe & Ouboter 1981).]
Distribution: Malla (1982) reports this species from Tibetan plateau. Shah (1991) reports its occurrence in the Annapurna-Dhaulagiri range. The only record of this species is from the Muktinath area and was retrieved from a small rivulet among caragana scrub country.

Scutiger sikkimensis (Blyth)

Common Name: Palobatic frog
Records: Swan and leviton (1962) reported this species from central Nepal as high as 3350m in Langtang village and 4111m at Maharigaun. Only record for the Conservation area made by Nanhoe and Ouboter (1981) from Ghorepani 2856-2860m.
Distribution: A pelobatid toad ranging from central to eastern Nepal and Sikkim, assuming as Eastern Himalayan species.

Scutiger nepalensis Dubois

Common Name: -
Records: Reported by Shah (1991) occurring in Annapurna - Dhaulagiri regions indicating its occurrence within ACAP boundaries, however no records of any kind from the Conservation area.
Distribution: Previously known only from Khaptad but recorded in Dhorpatan in field surrounded by open pine forest (Nanhoe & Ouboter 1987).

FAMILY: RANIDAE

Amolops afghanus (Gunther)

Common Name: -
Records: First record in Arun Basin by Shah and Giri (1992). [Records from ACAP: Tikhedhunga 1580m, Indikhola 1170m, Setidovan 1040m, Taprang 1600m (Nanhoe & Ouboter 1981); Sardikhola 1250m (BCDP 1994).]
Distribution: Eastern himalayan species ranging from eastern himalayas from the Conservation area to Yunan province favoring an elevational range from 1000m to 1900m.

Amolops formosus (Gunther)

Common Name: -
Records: First recorded in eastern Nepal by Shah and Giri (1992) measuring 54mm in snout-vent length in male. [Records from ACAP: Ghasa 2100m, Kalopani 2650m (Dubois 1974); Tajung Khola 1800m (Nanhoe & Ouboter 1981).]
Distribution: Regarded as a Himalayan species and have been reported in temperate zones of north west India, Nepal, Darjeeling and northern Burma (Shah and Giri 1992). Partial to Oak forest streams, coniferous forests in the Kaligandaki valley.

Rana parkeri Stejneger

Common name: -
Records: [Jomsom 2800m (Dubois 1974).]
Distribution: Tibetan species and the only record for Nepal from Jomsom.

Rana breviceps Schneider

Common Name: -
Records: As described by Shah (1991) occurring in western Nepal, and recorded from Pokhara at 960m (Dubois 1974), suspected to range within ACAP boundaries.
Distribution: Indian species ranging from Punjab and Sind to Southern India, Sri Lanka and the eastern and western himalayas favoring Tropical zone.

Rana liebigii Gunther

Common Name: Pahah
Records: First recorded by Gunther (1861) from Nepal. Reports from Dhankuta area was given by Boulenger

(1913). Swan and Leviton (1962) reported from Rasuwa garhi. Shah and Giri (1992) reported from Arun basin. [Records from ACAP: Dhampus forest 2030m (Nanhoe & Ouboter 1981); Kalopani 2650m, Ghorepani 2800-2930m, Ulleri 2060-2250m (Dubois 1976); Karuwa 1600m, Ghandruk 2000m, Hogogoth 2400m (BCDP 1994).]
Distribution: Ranges through western himalayas along Nepal to eastern himalayas, preferring oak forests as well as coniferous from 1500m - 3000m (Nanhoe & Ouboter 1987). Specimens collected from rivulets with high litter debris in forest in late spring.

Rana polunini Smith

Common Name: -
Records: First described by Smith (1951) from Langtang village at 3350m. Shah and Giri (1992) reported as low as 2100m from Arun basin. [Records from ACAP: 4Km SW of Muktinath 3580m, Ghorepani 2750-2860m (Nanhoe & Ouboter 1981); Jomsom 2790-2800m, Pisang 3400m (Dubois 1979); Other various reports from Thak khola (See Nanhoe & Ouboter 1987).] The only record of this amphibian species from Manang.
Distribution: Himalayan species ranging from western to central Nepal preferring oak forests of Ghorepani to dry region of Muktinath near streams.

Rana rara Dubois & Matsui

Common name: -
Records: Only record from Lake Rara and Gurjaghat (Nanhoe & Ouboter 1981), status uncertain in the Conservation area, however assumed to occur within the boundary by several authors.
Distribution: Endemic to Central Himalayas in mixed oak-pine forest under stones and tree trunks.

Rana rostandi Dubios

Common Name: -
Records: First records from eastern Nepal by Shah and Giri (1992). [Records from ACAP: Kalopani 2650m, Larjung 2600m, Tukuche 2640m, Marpha 2750m (Dubois 1976).]
Distribution: (Nanhoe and Ouboter 1987) limits this species to coniferous forests of Annapurna-Dhaulagiri region describing it as endemic to central Himalaya and ranges west from the Central hiamlayas. Edible, medium sized frog measuring 38mm in snout-vent length for males (Shah and Giri, 1992).

Rana cyanophlyctis Schneider

Common Name: Skittering frog, locally known as "Dhol Baje Paha" (Shah and Giri 1992).
Records: Previously reported by Boulenger (1907) from Kathmandu valley, Leviton Myers and Swan (1956) from Tamur river, Arun Basin, Dhankuta and also from Pokhara (Mardikhola). Shah and Giri (1992) also reports from east Nepal. Most common frog of lowland and midland measuring snout-vent length of 49mm.

Most common between 330m to 1800m (Shah and Giri 1992). [Records from ACAP: Naudanda/Kande 1600m (Dubois 1974); Bhedabari phedi 1150m, Indikhola 1110m, Armadi 860m, Setidovan 1040m (Nanhoe & Ouboter 1981).]
Distribution: Pan Oriental species ranging from South Arabia, Baluchistan to the Malayan peninsula and from the Himalayas to Sri Lanka, preferring cultivated zone at low altitude and very common frog from the southern slopes of the Himalayan range.

Rana limnocharis Annandale

Common Name: Paddy frog
Records: Previously reported by Boulendger (1907) from Sundarijal, Leviton, Myers and Swan (1956) from east Nepal and Shah and Giri (1992) also from east Nepal. [Records from ACAP: Tikhedhunga 1640m, Birethanti 1170m, Lumle/Kande 1660m, Ghanapokhara 1830m (Dubois 1974); Bhedabari phedi 1150m, Setidovan 1070m, Tikhedhunga 1580m, Dhampus forest 2030m, Indikhola 1130m, Mardikhola 1100m, Naudanda 1550m, Bhurjung khola 1280m (Nanhoe & Ouboter 1981).]
Distribution: Widely distributed in Southern Asia ranging along the Himalayas, Nepal, Sikkim, India, Sri Lanka, Burma to the Malaya peninsula, Indonesia, China and Southern Japan usually inhabiting man made ponds and channels.

Rana tigerina tigerina Daudin

Common Name: Indian bull frog
Records: Reported by Boulenger (1920) within Kathmandu valley. Leviton, Myers and Swan (1956) from Kalimati, Shah and Giri (1992) from Arun basin. [Records from ACAP: Naudanda/Kande 1600m (Dubois 1974); 0.5 Km E of Setidovan 1020m (Nanhoe & Ouboter 1981).]
Distribution: Pan Oriental species common in rice fields and ponds ranging through western himalayas, India, Nepal, Sri Lanka, Assam, Southern Yunan from China to the Malaya peninsula and Indonesia.

FAMILY: RHACOPHORIDAE

Polypedates maculatus (Gray)
Syn:*Rhacophorus maculatus*

Common Name: Chunam frog
Records: Previously reported by Leviton, Myers and Swan (1956) from eastern Nepal at 1525m. Suspected to occur within Conservation Area limits based on discussions of Swan and Leviton (1962) and records made by Dubois (1974) in Hyengja 1200-1220m which lies adjacent to the southern border limits of ACAP.
Distribution: An Indian species ranging through India, Sri Lanka, Central and Eastern Nepal.

Rhacophorus maximus Gunther

Common Name: Tree frog
Records: First recorded by Gunther (1858) at 1585m. Based on discussions of Swan and Leviton (1962), it is presumed to occur within ACAP boundaries but looks quite unlikely.
Distribution: Exact distribution of the species in Nepal unknown.

Reptiles:

Reptilian fauna is interesting as it occupies a varied habitats of humid to dry steppe environment of the Trans-himalayan zones. In total 39 species of reptiles have been described as occurring or suspected to occur in comparison to 49 species anticipated for the area of the 140 species of reptiles reported for Nepal by Swan and Leviton (1962). Seven families of the class reptile form the major species found. Lizards and snakes were more often frequented and reported whereas other families were hardly reported. Tortoise from Testunidae family were not reported throughout the region and hence has very little probability of being found in the Conservation area.

Classifications adopted by Swan and Leviton (1962), Leviton, Myers and Swan (1956), Majupuria (1982), Welch (1988), Nanhoe and Ouboter (1987) and Shah (1991) were combinedly discussed for identifying each taxa. Synonyms have been avoided as far as possible. So far, for the Conservation area, 39 species from 8 genera has been identified as being found or suspected to occur in the area. The reptiles have been described under two significant categories of which the snakes form a larger group of species occurring in the area. Lizards and skinks also represent a significant part of the species richness.

Lizards and skinks:

FAMILY: GEKKONIDAE

Hemidactylus brookii Gray

Common Name: House gecko
Records: [Birethanti 1170m (Nanhoe & Ouboter 1981).]
Distribution: Pan Oriental species ranging through Pakistan, Nepal, India, Sri Lanka, Southern Burma and Indonesia and very partial to buildings. Its occurrence at Birethanti has been argued as a accidental carry over by porters according to Nanhoe and Ouboter (987).

Hemidactylus flaviridis Rupell

Common name: Saffron bellied wall gecko
Records: Majupuria (1982) reported from Butwal area, west Nepal and Shah (1991) reports of its occurrence from eastern parts of Nepal also. Nanhoe & Ouboter (1987) reports from Pokahara at 960m assuming its occurrence within ACAP boundaries.
Distribution: Arabian and Indian species ranging through Arabian peninsula, Iran, Afghanistan, Pakistan, Northern India and south and central Nepal and its occurrence in central Nepal is assumed as import after opening of the highway to Bhairawa (Nanhoe & Ouboter 1987).

Hemidactylus garnotii Dumeril & Bibron

Common name: -
Records: Pokhara 940m (Hyatt 1954); Pokahara airport 960m (Nanhoe & Ouboter 1981). Suspected to occur within ACAP boundaries owing to its ranging vicinity.
Distribution: Indo-Chinese distribution ranging through central Nepal, Sikkim, Darjeeling, Burma, Indo-China, Indonesia, Ocenia and very partial to garden lamps and buildings.

FAMILY: AGAMIDAE

Laudalcia tuberculata Gray
Syn:*Agama tuberculata*

Common Name: Himalayan rock lizard.
Records: First recorded by Annandale (1907) from Chitlang, Smith (1935) from Kashmir to Kathmandu, Smith and Battersby (1953) from Jumla at 2317m. Shah (1991) describes, it's abode in Bagmati, Gandaki and Karnali zones. [Records from ACAP: Tatopani 1550m, Dana-Ghasa 1600-2600m, Tukuche 2560m, Tukche-Jomsom 2700m, Marpha 2800-3000m, Marpha-Siang 3400m, Jomsom 2750m, Jomsom-Tilicho tal 3310m, Ghandrung forest 2250m, Ghandrung 2100m, Naudanda 1550m (Gruber & Fuchs 1973); Ghandrung 1900m, Ghandrung 1940-2000m, Khudi 790m, Bhulbhule 810m, Syange 1140m, Chamje 1340m, Kuta 2010m, Thonje 1910m (Nanhoe & Ouboter 1981); Kharepani 1250m, Ghandruk 1800m, Khuldighar 2250m, Chamje 1400m (BCDP 1994).]
Distribution: Western Himalayan species ranging from north eastern Afghanistan, northern Pakistan, Kashmir and the Himalayan regions through Himachal and Utter Pradesh with the most easterly occurrence recorded at Chitlang, immediate south from Kathmandu. Prefers characteristically open rocky areas, mostly along rivers.

Calotes versicolor (Daudin)

Common Name: Common garden lizard
Records: Reported in Nepal by Gray (1845), Gunther (1860), Annandale (1907), Smith (1935), Smith and Battersby (1953) from Karnali, Leviton, Myers and Swan (1956) from east Nepal. [Records from ACAP: Tatopani 1550m, Ulleri 1500m (Gruber & Fuchs 1973); Indikhola 1360m, Madikhola 920m, Tatopani 1200m (Nanhoe & Ouboter 1981); Ghandruk 1800m, Sarkyun 1800m, Purana chaur 1200m, Syaulibhatti 1100m (BCDP 1994).]
Distribution: Pan oriental species ranging through Afghanistan, Pakistan, India, Nepal, Sikkim, Sri Lanka, Andaman Islands, Southern China, northern part of Malaya Peninsula and Sumatra. Known to be partial to cultivation and never in forest.

Japalura major (Jerdon)

Common Name: Japalura
Records: Recorded by Smith and Battersby (1953) as high as 3200m in western Nepal. Majupuria (1982) describes this species from central Nepal too. [Records from ACAP: Siklis 2000m (BCDP 1994). First time recorded for ACAP.]
Distribution: Western Himalayan species ranging through Himachal Pradesh to central Nepal and the record from Siklis is the most easterly.

Japalura tricarinata (Blyth)

Common Name: Japalura
Records: [Shika 2440m, Ulleri 1830-2130m, Chipli 2130-2440m, Siklis 2740m (Hyatt 1954); Ghandruk forest 2400m, Khuldighar 2450m (Gruber & Fuchs 1973); Ghorepani 2850m, Chomrong khola 2000m, Dhampus forest 2030-2130m, Bhurjung-Chiplikhola 2370m, Tangting forest 2070m (Nanhoe & Ouboter 1981).]
Distribution: Eastern Himalayan species ranging through central and eastern Nepal, Sikkim/Darjeeling and partial to Rhododendron forest between altitudes of 2000-2850m however Nanhoe & Ouboter (1987) argue as occurring equally in open sunny places.

Phrynocephalus theobaldi Blyth

Common name: -
Records: [Jomsom 2890m (Hyatt 1954, Nepali 1977); Kagbeni-Muktinath 3200m (Gruber 1980); Jhong 3830m, 2Km SE of Kagbeni 3060m, 3Km N of Jhong 4000m (Nanhoe & Ouboter 1981); Ghami 4000m, Yara 3800m (BCDP 1994).]
Distribution: Tibetan species ranging through Southern Tibet, eastern Turkistan and Ladhak among high

altitude steppe zone with sparse vegetation of caragana domes. Takes refuge among scrub domes in holes made of loose sand when alerted.

FAMILY: SCINCIDAE

Scincella capitanea Ouboter

Common name: Skink
Records: [Ghandruk 2100m, Lumle 1550m, Dhampus 1400m (Gruber 1973, 1979); Dhampus forest 1850m, Tangting 1680m (Nanhoe & Ouboter 1981).]
Distribution: Nanhoe & Ouboter (1987) refers this species as endemic to the Southern slopes of Annapurna range preferring damp forests.

Scincella ladacensis ladacensis (Gunther)
Syn:*Leiolopisma ladacensis ladacensis*

Common name: -
Records: Reported by Smith and Battersby (1953) from western Nepal as high as 4488 m. No records within ACAP boundaries to date however highly suspected as it occurs in adjacent areas further west from the Mustang valley.
Distribution: Assumed Tibetan species ranging in areas intermediate between the high himalayas and the Tibetan plateau such as Ladhak, Dolpo, Mustang where precipitation is relatively better than Tibet (Nanhoe & Ouboter 1987).

Scincella ladacensis himalayana (Gunther)
Syn: *Leiolopisma ladacensis himalayana*

Common name: -
Records: No records to date within the Conservation area however highly suspected due to its habitat preference and elevational range.
Distribution: Western himalayan species ranging through Pamir, northern Pakistan, Kashmir, Himachal Pradesh, Himalayan region of Utter Pradesh and Western nepal preferring alpine meadows and occurring as high as 4880m.

Scincella sikimensis (Blyth)
Syn:*Leiolopisma sikimensis*

Common name: Sikkim skink
Records: Reported by Annandale (1907) and Smith (1935) from Chitlang area at about 1525 m. Majupuria (1982) describes its occurrence from the central regions. Shah (1991) reports of its occurrence in the Annapurna-Dhaulagiri area. [Records from ACAP: Lete 2450m, 1Km NW of Ghorepani pass 2750m, Poon hill 3200m, Ghorepani 2850m, Chumrokhola 1950m, Dhampus forest 1990-2100m, Bhurjung khola-Chipli 1970-2370m, Tangting forest 2070m, 2Km south of Telbrung danda 2530m, Chamje 1340m, Tal 1640m, 1Km west of bagarchap 2080m, Bhratang 2800m (Nanhoe & Ouboter 1981); Kalopani 2500m, Marpha 3000m, Ghorepani 2800m, Ghandrunk forest 2360m, Deorali 2600m (Gruber & Fuchs 1973); Sikha 2440m, Ulleri 1830-2130m (Hyatt 1954); Siklis 1500m, Ghandruk 2000m (BCDP 1994).]
Distribution: An eastern Himalayan species ranging throughout central Nepal, Sikkim/Darjeeling, Assam and Nagpur and very partial to forested areas.

Sphenomorphous maculatus (Blyth)

Common name: -
Records: [Madikhola 920m (Ouboter & Meeuwen 1978, Nanhoe & Ouboter 1981); 4Km NW of Khudi 820m (Nanhoe & Ouboter 1981).]
Distribution: An Indo Chines species ranging through central Nepal, Sikkim/Darjeeling, Assam, northern Bengal, south western Yunan, burma, Thailand, cambodia, Southern vietnam, Andaman and Nicobar islands preferring low altitude localities along rivers at forest edges.

FAMILY: VARANIDAE

Varanus flavescens (Gray)

Common name: Yellow monitor lizard
Records: Gunther (1864) described the species for the first time for Nepal. Majupuria (1982) reports of it being found in the Kathmandu valley which is thought to have migrated from the plains. Shah (1991) reports of its occurrence from West Nepal. Suspected to occur at lower southern limits of ACAP.
Distribution: Indian species distributed through Nepal's lower regions and usually partial to the tropics along rivers.

SNAKES:

FAMILY: TYPHLOPIDAE

Ramphotyphlops braminus (Daudin)

Common name: Blind snake
Records: Hyengja 900m (Gruber & Fuchs 1973); Uncertain within ACAP boundaries.
Distribution: Widely distributed ranging through Africa, Arabia, Iran, India, Sri Lanka, Andaman and Nicobar islands, Nepal, Indo-China, Indonesia, Phillipines and Southern China.

FAMILY: COLUBRIDAE

Amphiesma platyceps (Blyth)
Syn: *Natrix platyceps*

Common name: Mountain keelback
Records: Swan and Leviton (1962) reported from Chitlang, Pharping and Tangjet. Majupuria (1982) reports of the Flemings collecting it from east Nepal for the first time and describes its elevational ranges at 1524 m. to 3658 m. [Records from ACAP: Tatopani 1550m, Kalopani 2500m, Landrung 1650m, Tangting forest 2190m (Nanhoe & Ouboter 1981); Tukuche 2500m, Sikha 2000m, Kyumnu khola/Ghandruk forest 2360m (Gruber & Fuchs 1973); Birethanti 1040m (Gruber 1979); Bhujung 1400m (BCDP 1994).]
Distribution: Widely distributed Himalayan species preferring forest edge and ranging through Kashmir, Himachal Pradesh, Himalayan region of Utter Pradesh, Nepal and Assam. Nanhoe and Ouboter (1987) suspects occurrence in the Manang valley owing to the habitat feature and elevational range preferred by this species.

Amphiesma stolata (Linnaeus)
Syn: *Natrix stolata*

Common name: Striped keelback or Harahara in Nepali
Records: Swan and Leviton (1962) reports from Nepal based on records by Gunther (1858), Sclater (1891), Wall (1907) from as high as 1525 m. Also reported from east Nepal by Majupuria (1982). [Records from ACAP: Bhedabari phedi 1130m, Namarjung 1300m (Nanhoe & Ouboter 1981); Chandrakot 1640m (Fuchs 1979); Naudanda 1550m (Gruber & Fuchs 1973).]
Distribution: A Pan Oriental species ranging through Western himalayas, sikkim/Darjeeling, Nepal, Indian Plains, Sri Lanka, Andaman and Nicobar islands, Burma, Southern China and Indo China.

Rhabdophis himalayanus (Gunther)
Syn:*Amphiesma himalayana/Natrix himalayana*

Common name: Himalayan keelback
Records: Reported by Gunther (1864) from Nepal and Sikkim. Swan and Leviton (1962) reports its occurrence from central Nepal. [Records from ACAP: Tatopani 1230m, Ghara 1820m (Nanhoe & Ouboter 1981); Ghandruk forest 2350m (Gruber Fuchs 1973); Ghandrung 2000m (BCDP 1994).]
Distribution: Eastern himalayan species ranging through central Nepal, Sikkim/Darjeeling, Assam, Upper Burma preferring rocky slopes near cultivation.

Xenochrophis piscator (Schneider)
Syn: *Natrix piscator/Amphiesma piscator*

Common name: Natrix
Records: Reported by Gunther (1858), Swan and Leviton (1962) from the central region including Pokhara and Phewa lake at an altitude of 1500 m. [Records from ACAP: Naudanda 1500m (Kramer 1977): Uncertain within boundaries however highly suspected.]
Distribution: Pan oriental species ranging through northern and central India, Nepal, Sikkim, Darjeeling, Upper Burma, Yunnan and Upper Laos. Though Nanhoe & Ouboter (1987) describes its habit as refraining from steep slopes, in contrast specimens have been collected in Kathmandu and Pokhara in such habitat.

Elaphe helena (Daudin)

Common name: Trinket snake
Records: Reported by Majupuria (1982) from the Duns at an altitude of 1524 m. in the middle hills. [Records from ACAP: Naudanda 1500m (Kramer 1977): Uncertain within boundaries however highly suspected.]
Distribution: Indian species ranging through Pakistan, India, Nepal, Assam and Sri Lanka and partial to heavily cultivated areas.

Elaphe hodgsonii (Gunther)

Common name: Himalayan sand snake
Records: Swan and Leviton (1962) confines it to central and western Nepal based on Sclater (1891), Smith and Battersby (1953) who reported as high as 3200 m. [Records from ACAP: Siklis 2740m (Hyatt 1954); Ghandruk 2000m (BCDP 1994).]
Distribution: Himalayan species ranging from Ladhak Kashmir to Sikkim and Assam and considered rare. Partial to oak and dry coniferous forest.

Ptyas mucosus (Linnaeus)

Common name: Common rat snake or Dhaman in Nepali.
Records: Shah (1991) reports of this snake occurring throughout the country below 3500 m. Previous records were made by Swan and Leviton (1962) from the central and eastern regions with references from Cantor (1839), Gunther (1858), Wall (1907) and Leviton, Myers and Swan (1956). Collected from Pokahara 960m by Nanhoe and Ouboter (1981) and from Suikhet by Kramer (1977). Uncertain however its occcurrence is highly suspected within ACAP boundaries.
Distribution: Pan oriental species ranging through Baluchistan, Afghanistan, Turkistan, Kasmir, Nepal, Sri lanka, Andaman and Nicobar islands, whole of indo-China and southern China and restricted to cultivated areas south from the hiamalayas.

Boiga trigonata (Schneider)

Common name: Common cat snake
Records: Swan and Leviton (1962) reports this species from central Nepal at 1220 m. Though Shah (1991) reports from lowlands of east Nepal, Majupuria (1982) has reported from Gorkha east of Lamjung of which some lie at the eastern borders of ACAP. Hyengja 1100m (Kramer 1977); Uncertain however its occurrence is highly suspected within ACAP boundaries.
Distribution: Indian species ranging throughout Indian peninsula and extends its range from Western himalayas to eastern himalayas preferring cultivated areas.

Lycodon aulicus (Linnaeus)

Common name: Wolf snake
Records: Swan and Leviton (1962) describes it from central Nepal based on records by Sclater (1891), Wall (1907), and Smith (1943) from the Kathmandu valley at 1375 m. Majupuria reported of being found only within western terai, however Shah (1991) reports from the Thakkhola region which lies within ACAP's boundaries.
Distribution: Indian species ranging through Pakistan, Indian penisula, Sri Lanka, maldives, nepal, Burma and is limited to cultivated areas south of the himalayas.

Sibynophis collaris (Gray)

Common name: Collared black headed snake
Records: Reported by Swan and Leviton (1962) from Dang valley. Majupuria (1982) describes of being found in the western himals. [Records from ACAP: Kalopani 2500m, Sikha 2000m (Gruber & fuchs 1973) Modikhola 1815 (Nanhoe & Ouboter 1981).]
Distribution: Ranges through Himalayas, Indo china, Himachal pradesh, nepal, Sikkim/Darjeeling Assam,

Burma, Yunan, hilly country of Thailand, Malaya, Laos and Vietnam preferring bordering areas between cultivation and rockyland near oak forests.

Pseudoxenodon macrops macrops (Blyth)

Common name: -
Records: [Ghandrung forest 2360m (Gruber & Fuchs 1979); Ulleri 2000m (Kramer 1977).]
Distribution: Indo-Chinese species ranging through Sikkim, Darjeeling, Burma, Peninsular Thailand, Laos and Vietnam preferring wet oak forests.

Elaphe radiata (Schlegel)

Common name: -
Records: Swan and Leviton (1962) describes this animal from central Nepal only. Majupuria (1982) reports its distribution further west based on Smith (1943). Reported by Gruber (1979) at Chisanku, the confluence of Madi and Midim.
Distribution: Indo-Chinese species ranging from East India, central Nepal to southern China, whole of Indo-Chinese subregion to the Malaya Peninsula. The Conservation area as its most westerly range (Nanhoe & Ouboter 1987).

Elaphe porphyracea porphyracea Cantor

Common name: -
Records: [Ghandrung 2000m (BCDP 1994): New record for Nepal as well as for the Conservation area.]
Distribution: Distributional status unknown for the country. Specimen collected from forests of Ghandruk.

Trachischium fuscum (Blyth)

Common name: Darjeeling oriental worm snake
Records: [Kyumnu khola 1900m (Gruber & Fuchs 1973)]
Distribution: Ranges through himalays from Kashmir to Assam preferring oak forests.

FAMILY: ELAPIDAE

Calliophis macclellandii (Reinhardt)

Common name: Coral snake
Records: Reported from central Nepal by Swan and Leviton (1962) based on records made by Gunther (1864),

Theobold (1876), Smith (1943) at altitude of 2165 m. and according to their distribution can be assumed to occur within ACAP limits.
Distribution: Exact distribution unknown.

Ophiophagus hannah (Cantor)

Common name: King cobra
Records: Majupuria (1982) reports from several parts of Nepal and Shah (1991) reports from the Thakkhola area. [2Km N of Landrung 1530m (Nanhoe & Ouboter 1987).]
Distribution: Pan oriental species distributed throughout Peninsular India, the Himalayas, Indo-Chinese subregion as far north as the triangle in Upper Burma, Southern china, Andaman islands, Malayan peninsular, western Indonesia and the Philippines preferring inaccessible places in the mountains rarely above 2000m.

FAMILY: VIPERIDAE

Gloydius himalayanus (Gunther)
Syn: *Agkistrodon himalayanus*

Common name: Himalayan pit viper
Records: Swan and Leviton (1962) reported the species from west Nepal based on records from Smith and Battersby (1953) at altitudes of 2600 m. to 3050 m. Shah (1991) reports of its occurrence in the Langu valley. [Records from ACAP: Ghasa 2130m, Lete 2440m (Hyatt 1954); Kalopani 2500m, Tukuche 2700m (Gruber & Fuchs 1973); Tal 1640m (Nanhoe & Ouboter 1981).]
Distribution: Western himalayan species ranging from northern Pakistan, kashmir, western and central Nepal, Sikkim and khasi hills however its occurrence in tal from Marsyangdi valley has been its most easterly range and well associated with rather dry coniferous forests.

Trimeresurus albolabris (Gray)

Common name: White lipped pit viper
Records: Swan and Leviton (1962) has described the species from central Nepal from as high as 2745 m. and Shah (1991) from Dadheldhura, west Nepal. Sub species *albolabris*(Gray) and ***septentrionalis*** (Kramer) are reported from Nepal. [Bahundanda 1400m (Ouboter & Meeuwan (1978); Tatopani 1200m (Nanhoe & Ouboter (1981).]
Distribution: Indo-Chinese species ranging through northern India, whole of Indo-China, Nepal, Eastern himalayas to southern china, Taiwan, burma, Thailand, Malaya peninsula and Indonesia usually associated with cultivated habitat.

Oyophis monticola monticola (Gunther)
Syn: *Trimeresurus monticola*

Common name: Mountain pit viper
Records: Swan and Leviton (1962) described the species from central Nepal based on records from Gunther (1864), Sclater (1891), Boulenger (1896) and Wall (1907). Shah (1991) reports this species from eastern to western Nepal as far as Mugu. [Records from ACAP: Kyumnu khola 1900m, Lumle 1550m (Gruber & Fuchs 1979); Ghandrung 2000m (BCDP 1994).]
Distribution: Indo-Chinese species ranging through central and eastern Nepal, Eastern Himalayas, burma, Southeastern Tibet, Yunan and Thailand and found to be opportunistic in habitat selection.

Trimeresurus erythrus Cantor

Common name: Green viper
Records: [Ghandrung 1900m (BCDP 1994): New record for Nepal as well as for the Conservation area.]
Distribution: Exact distributional pattern unknown however specimen collected came from shrubland interspersed with cultivation and Alder wood.

AVIFAUNA:

Birds of the Conservation area include a large variety from about 52 families with a species count of 474. This number represent more than 50% of the birds found in Nepal. Of the 79 families reported from Nepal 52 families have been recorded so far from the area. The Inskipps (1989) have prepared a simple checklist of birds containing 441 species. The BCDP team could record only about 320 species of birds visiting at one season only.

The classification followed has recruited Fleming et. al.'s (1979) modification to the family level. The families Timallidae, Muscicapidae, Sylviidae and Turdidae has been classified by Ripley as subfamilies but for sake of convenience and following Flemings work, it has been described as separate families. From genus onwards, nomenclature was based on the Inskipps (1991). Subspecies described is based on descriptions from the Inskipps (1990).

Bird Checklist of ACAP

ANNAPURNA CONSERVATION AREA BIRD CHECKLIST

FAMILY/COMMON NAME	SCIENTIFIC NAME	SUB.SPP.	ELEVATION MIN	ELEVATION MAX	ECOZONE	HABITATS	STATUS	REMARKS
1. PODICIPADIDAE								
Great crested grebe	*Podiceps cristatus*	*cristatus*	800m	2660m	TR,ST,TM	WPS	v3	
Black necked grebe	*Podiceps nigricollis*	*nigricollis*	800m	2660m	TR,ST,TM	WPS	w3	
2. ARDEIDAE								
Cattle egret	*Bubulcus ibis*	*coromandus*	125m	1525m	TR,ST	MSG,CTF,CAF,WPS,WML	rb1	
3.PHALACIOCORACIDAE								
Great cormorant	*Phalacrocorax*	*sinensis*	125m	3960m	TR,ST,TM,SA	WPS,WML	M4	
Indian pond heron	*Ardeola grayii*	*grayii*	125m	2745m	TR,ST,TM	WPS,WML	r3	
4.ANATIDAE								
Bar headed goose	*Anser indicus*	–	125m	9375m	TR,ST	WPS,WML	m4	
Ruddy shelduck	*Tadorna ferruginea*	–	125m	4800m	TR,ST, AL	WPS,WML,WAP	m3	
Eurasian wigeon	*Anas penelope*	–	125m	4750m	TR,ST, AL	WPS,WML,WAP	m5	
Gadwal	*Anas strepera*	*strepera*	125m	4750m	TR,ST, AL	WPS,WML,WAP	m4	
Baikel teal	*Anas formosa*	–	–	2560m	TR,ST, AL	WPS,WML,WAP	v	
Common teal	*Anas crecca*	*crecca*	–	4300m	TM.SA,AL	WPS,WML,WAP	m3	
Mallard	*Anas platyhynchos*	*platyhoncos*	125m	2620m	TR,ST, AL	WPS,WML,WAP	mb3	
Northern pintail	*Anas acuta*	*acuta*	125m	4500m	TR,ST, AL	WPS,WML	m4	
Garganey	*Anas querquedula*	–	125m	4570m	TR,ST, AL	WPS,WML	m4	
Northern shoveler	*Anas clypeata*	–	125m	4570m	TR,ST, AL	WPS,WML	m4	
Common pochard	*Aythya ferina*	–	125m	4570m	TR,ST, AL	WPS,WML	m4	
Ferruginous duck	*Aythya nyroca*	–	125m	4570m	TR,ST,TM,AL	WPS,WML	m4	
Tufted duck	*Aythya fuligula*	–	125m	4900m	TR,ST,TM,AL	WPS,WML	m4	
Goosander	*Mergus merganser*	*comatus*	–	3000m	TR,ST	WPS,WML	w4	
5.ACCIPITRIDAE								
Crested honey buzzard	*Pernis ptilorhyncus*	*ruficollis*	125m	3050m	TR,ST,TM	HSF,WTB,CTB	rm3	
Black kite	*Milvus migrans*	*lineatus*	75m	2300m	TR,ST	HSF,TDR,SCF,SEF	rm1	
		govinda	75m	4900m	TR,ST,SA,AL	HSF,TDR,SEF,WTB,CTB,SAF	rm1	
Pallas's fish eagle	*Haliaetus leucoryphus*	–	–	500m	TR	TDR,WPS,WML	m5	
Egyptian vulture	*Neophron percnopterus*	*ginginianus*	–	3810m	TR,ST	GCL,MF	s2	

Lammergeier	*Gypaetus barbatus*	*aureus*	1200m	4100m	ST,TM,SA,AL	GCL,MF	rb1
Oriental white–backed vulture	*Gyps bengalensis*	–	125m	3050m	TR,ST	GCL,MF	r3
Long billed vulture	*Gyps indicus*	*tenuirostris*	–	1525m	TR,ST	GCL,MF	r4
Himalayan griffon vulture	*Gyps hamalayensis*	–	900m	6100m	ST,TM,SA,AL	GCL	r1
Red headed vulture	*Sacrogyps calvus*	–	–	3050m	TR,ST	GCL,MF	r2
Cinereous vulture	*Aegypius monachus*	–	152m	2287m	TR,ST	GCL,MF	w2
Eurasian griffon vulture	*Gyps fulvus*	*fulvecens*	120m	1982m	TR,ST	GCL,MF	t3
Lesser fishing eagle	*Icthyophaga humilis*	*plumbea*	125m	3500m	TR,ST,TM	TOR,WPS,WML,SEF	r4
Short toed snake eagle	*Circaetus gallicus*	–	120m	2130m	TR,ST	WTB,SEF,MF,GCL	v
Crested serpent eagle	*Spilornis cheela*	*cheela*	120m	3350m	TR,ST,TM	WTB,SEF,TDR,GCL	s1
Eurasian marsh harrier	*Circus aeruginosus*	*aeruginosus*	120m	3050m	TR,ST	TDR,WPS,WMS	m4
Hen harrier	*Circus cyaneus*	*cyaneus*	274m	4270m	TR,ST	GBA,GCL,CTF,CAF	wm2
Pallid harrier	*Circus macrourus*	–	–	3350m	TR,ST,TM	CTF,CAF	n4
Montagu's harrier	*Circus pygargus*	–	244m	1830m	TR,ST	CTF,CAF,MSG	n5
Pied harrier	*Circus melanoleucus*	–	152m	3810m	TR,ST	MSG,CTF,CAF,WPS	n5
Northern goshawk	*Accipiter gentilis*	*schyedowi*	1370m	4880m	ST,TM,SA,AL	DAS,MAG,MAS	r3
Besra	*Accipiter virgatus*	*affinis*	1350m	3440m	ST,TM	MF,MPG,CAF,CTF	r4
Northern sparrowhawk	*Accipiter nisus*	*melaschistos*	2440m	3965m	TM,SA,AL	GCL,WPS,CTF,CAF	r2
		nisosimilis	250m	1450m	TR,ST	TDR,GCL,WML,CTF,CAF	wr2
Crested goshawk	*Accipiter trivirgatus*	*indicus*	120m	2100m	TR,ST	WTB,SCF,HSF	r4
Shikra	*Accipiter badius*	*dussimieri*	152m	2250m	TR,ST	HSF,DAS,DMS	–
Common buzzard	*Buteo buteo*	*refectus*	1000m	3800m	TR,ST,TM	DMS,MPG,MSG,GAL,GBL,GCL,CTF,CAF	wm2
		japonicus	1000m	3800m	TR,ST,TM	DMS,MPG,MSG,GAL,GBL,GCL,CTF,CAF	wm2
Long legged buzzard	*Buteo rufinus*	*rufinus*	152m	2440m	TR,ST	DMS,MPG,MSG,GAL,GBL,GCL,CTF,CAF	wm2
Upland buzzard	*Buteau hemilasius*	–	1372m	4050m	ST,TM,SA,AL	MAS,DAS,DMS,MAG,DAG,CTF,CAF,GAL,GB	–
Black eagle	*Ictinaetus malayensis*	*perniger*	305m	4000m	TR,ST,TM,SA	WTB,CTB,SAF,GCL	r2
Greater spotted eagle	*Aquila clanga*	–	–	3840m	TR,ST	TOR,MF	m3
Steppe eagle	*Aquila rapax*	*nipalensis*	305m	7930m	TR,ST,TM,SA,AL,A	WTB,CTB,SAF	wm1
Imperil eagle	*Aquila heliaca*	*heliaca*	120m	3900m	TR,ST	TDR	m4
Golden eagle	*Aquila chrysaetos*	*daphanea*	75m	6190m	SA,AL	MAS,DAS,MAG,DAG,GBA,GCL	r4
Booted eagle	*Hieraaetus pennatus*	–	305m	3650m	TR,ST	HSF,SCF,SEF,GCL	wmb4
Bonelli's eagle	*Hieraaetus fasciatus*	*fasciatus*	1400m	3050m	ST	SEF,WTB,GCL	r3
Mountain hawk eagle	*Spizaetus nipaiensis*	*nipaiensis*	120m	2835m	ST,TR	SEF,WTB,HSF,GCL	r3
Osprey	*Pandion hailaetus*	*haliaetus*	120m	1372m	ST,TR	TDR,WPS,GAL	m4
6.FALCONIDAE							
Lesser kestrel	*Falco naumanni*	–	610m	3700m	TR,ST,TM	GCL,MF	m4
Common kestrel	*Falco tinnunculus*	*tinnunclus*	152m	5200m	TR,ST,TM,SA,AL	GCL,GAL,TDR	rmw1
		interstinctus	152m	5200m	TR,ST,TM,SA,AL	GCL,GAL,TDR	rmw1
Amur falcon	*Falco amurensis*	–	1372m	4422m	ST,TM,SA,	GCL,MF	m5
Laggar falcon	*Falco biarmicus*	*jugger*	120m	1980m	TR,ST	DMS,CTF,CAF,GAL	r4
Red thighed falconet	*Microheirax caerulescens*	*caerulescens*	120m	915m	TR	DMS,CTF,CAF,MSG	4
Merlin	*Falco columbarius*	*insignis*	–	4000m	TR,ST	TDR,GCL	v
Oriental hobby	*Falco severus*	*fufipedoides*	152m	1525m	TR,ST	HSF,MF	4
Eurasian hobby	*Falco subbuteo*	*subbuteo*	1220m	3050m	TR,ST	WTB,PRF,SEF	rwb4
Saker falcon	*Falco cherrug*	*milvipes*	2040m	3795m	TM,SA	DAS,DMS,GBA	w5

Peregrine falcon	*Falco peregrinus*	*calidus*	1500m	4200m	ST,TM,SA,AL	WTB,CTB,GCL	w2	
		peregrinator	1500m	4200m	ST,TM,SA,AL	WTB,CTB,GCL	r2	
Barbery falcon	*Falco pelegrinoides*	*babylonicus*	3000m	3865m	TM,SA,AL	WTB,CTB,GCL	v5	
7.PHASIONIDAE								
Snow partridge	*Lerwa lerwa*	*lerwa*	3050m	5185m	SA,AL	DAS,MAS,MAG,DAG,GBA	r	+
Tibetan snowcock	*Tetrogaollus tibetanus*	*aquilonifer*	3650m	5490m	SA,AL,AR	DAS,DAG,GBA	r2	
Himalayan snowcock	*Tetraogallus himalayensis*	*himalayensis*	4270m	5490m	AL,AR	DAS,DAG,GBA	r	
Chukar partridge	*Alectoris chukar*	*chukar*	2135m	3960m	TM,SA	GBA,GBC,GCL,DAG	r2	
Black partridge	*Francolinus francolinus*	*aisae*	152m	2135m	TR,ST	MPG,DMS	s1	
		melanonotus	152m	2135m	TR,ST	MPG,DMS	s1	
Tibetan partridge	*Perdix hodgsoniae*	*hodgsoniae*	3660m	4880m	SA,AL	DAS,DAG,GBA	r	
Common hill partridge	*Arborophila torqueola*	*torqueola*	1830m	3200m	ST,TM,SA	GCL,WTB,SEF	r2	
Rufous throated partridge	*Arborophila rufogularis*	*rufogularis*	305m	1830m	TR,ST	SEF,SCF	r5	E
Red jungle fowl	*Gallus gallus*	*murghi*	75m	1067m	TR,ST	ETF,CAF,MSG	r1	
Blood pheasant	*Ithaginis cruentus*	*cruentus*	3200m	4400m	SA,AL	SAF,MAS,DAS,MPG	r2	+
Satyr tragopan(Crimson horned)	*Tragopan satyra*	–	2100m	3800m	TM,SA	MAS,MAG,CTB,WTB	r4	V+
Koklas pheasant	*Pucrasia macrolophus*	*nipalensis*	2135m	3200m	TM,SA	MAS,MAG,CTB,WTB	r2	
Impeyan pheasant	*Lophophorus impejanus*	–	2500m	4700m	TM,SA,AL	MAS,MAG,GCL,SAF	r2	+
Kalij pheasant	*Lophura leucomelana*	*leucomelana*	305m	3660m	TR,ST,TM,SA	TDR,SEF,WTB,CTB,HSF	r2	
		hamiltonii	305m	3660m	TR,ST,TM,SA	TDR,SEF,WTB,CTB,HSF	r2	
		melanota	305m	3660m	TR,ST,TM,SA	TDR,SEF,WTB,CTB,HSF	r2	
Cheer pheasant	*Catreus wallichii*		1800m	3050m	ST,TM	WTB,CTB,SEF,HSF,CSB,DMS,GBC	r	I*
8.RALLIDAE								
Common moorhen	*Gallinula chlorophus*	*chlorophus*	120m	4575m	TR,ST	TDR,WPS,WML	m5	
Common coot	*Fulica atra*	*atra*	305m	5000m	TR,ST	TDR,WPS,WML	v	
9.CICCONIDAE								
Common crane	*Grus grus*	*lilfordi*	120m	3050m	TR,ST	WPS,WML	m5	
Demoiselle crane	*Anthropoides virgo*	–	120m	5185m	TR,ST	WPS,WML	m1	
10.RECURVIROSTRA								
Black winged stilt	*Himantopus himantopus*	*himantopus*	120m	3355m	TR,ST	WPS,WML	v5	
11.CHARADRIIDAE								
Little ringed plover	*Charadrius dubius*	*jerdoni*	244m	1500m	TR,ST	GAL,WPS,WML	m5	
		curonicus	244m	1500m	TR,ST	GAL,WPS,WML	m5	
Lesser golden plover	*Pluvialis dominica*	*fulva*	120m	2440m	TR,ST	WPS,WML	m1	
Pacific golden plover	*Pluvialis fulva*	–	120m	2590m	TR,ST	WPS,WML	wm5	
Northern lapwing	*Vanellus vanellus*	–	213m	2710m	TR,ST	WPS,WML	v	
Temminck's stint	*Calidris temminckii*	–	213m	2700m	TR,ST	WPS,WML	m3	

Solitary snipe	*Gallinago solitaria*	*solitaria*	1220m	3795m	TR,ST	WPS,WML	w3	
Wood snipe	*Gallinago nemoricola*	–	1372m	3800m	ST,TM,SA	WPS,WML,TDR	m5	I*
Eurasina woodcock	*Scolopax rusticola*	*limosa*	1350m	3900m	ST,TM,SA	WPS,WML,TDR	r3	
Common greenshank	*Tringa nebularia*	–	120m	4800m	TR,ST	WPS,WML,TDR	m5	
Green sandpiper	*Tringa ochropus*	–	120m	4250m	TR,ST	WPS,WML,TDR	wm3	
Wood sandpiper	*Tringa glareola*	–	120m	3780m	TR,ST	WPS,WML,TDR	m3	
Common sandpiper	*Actitis hypoleucos*	–	120m	5400m	TR,ST	WPS,WML,TDR	m2	
Ruddy turnstone	*Arenaria interpres*	*interpres*	–	2700m	–	–	v	
12.LARIDAE								
Brown headed gull	*Larus brunnicephalus*	–	120m	5490m	TR,ST	WPS,WML	v	
13.COLUMBIDAE								
Blue rock pigeon	*Columba livia*	*intermedia*	120m	4270m	TR,ST,TM,SA,AL	GAL,HV	r1	
Hill pigeon	*Columba rupestris*	*turkestanica*	1982m	5490m	ST,TM,SA,AL	GAL,HV,DAS	r2	
Snow pigeon	*Columba leuconota*	*leuconata*	1525m	4880m	ST,TM,SA,AL	GAL,HV,DAS	r2	
Common woodpigeon	*Columba palvmbus*	*casiotis*	–	2275m	TR,ST	HV	w5	
Speckled woodpigeon	*Columba hodgsonii*	–	1525m	2745m	ST	TDR,SEF,CTF,CAF,GCL	r3	+
Ashy woodpigeon	*Columba pulchricollis*	–	610m	2440m	TR,ST	GCL,SEF	r3	+
Oriental turtle dove	*Streptopelia orientalis*	*meena*	365m	4570m	TR,ST,TM,SA,AL	WTB,CTB,SCF,TDR,HSF,CTF,CAF	r1	
Spotted dove	*Streptopelia chinensis*	*suratensis*	120m	3965m	TR,ST,TM,SA	HV,CTF,CAF	r1	
Laughing dove	*Stretopelia senegiensis*	*cambayensis*	610m	2440m	TR,ST,TM	TDR,CTF,CAF	4	
Barred cuckoo dove	*Macropygia unchall*	*tusalia*	305m	2745m	TR,ST	TDR,WTB,SCF,HSF	r4	V
Wedge tailed green pigeon	*Treron sphenura*	*sphenura*	152m	2800m	TR,ST	TDR,WTB,SCF,HSF	r4	
14.PSITTACIDAE								
Large parakeet(Alexandrine)	*Psittacula eupatria*	*nipalensis*	120m	1000m	TR,ST	TDR,HSF,SCF	r1	
Slaty headed parakeet	*Psittacula himalayana*	–	213m	3260m	TR,ST	TDR,WTB	r1	+
15.CUCULIDAE								
Large hawk cuckoo	*Hierococcyx*	*sparverioides*	305m	3000m	TR,ST,TM	WTB,CTB	s2	
india cuckoo	*Cuculus micropterus*	*micropterus*	305m	2135m	TR,ST	SCF,TDR,HSF	s1	
Common cuckoo	*Cuculus canorus*	*canorus*	305m	3812m	TR,ST,TM	MAS,DAS,SAF,TDR	s1	
		bakeri	305m	3812m	TR,ST,TM	MAS,DAS,SAF,TDR	s1	
Oriental cuckoo	*Cuculus saturatus*	*saturatus*	305m	3355m	TR,ST,TM	MAS,DAS,SAF,TDR	s1	
Lesser cuckoo	*Cuculus poliocephalus*	–	1220m	3660m	ST,TM,SA	SCF,SAF,WTB	s4	
Plaintive cuckoo	*Cacomantis merulinus*	*querulus*	305m	2135m	TR,ST	SCF,TDR,SAF,PRF	s2	
Common hawk cuckoo	*Hierococcyx varius*	*varius*	120m	1372m	TR,ST	CTF,HSF,SEF	r1	
Green billed malkoha	*Phaenicophaeus tristis*	*tristis*	120m	1830m	TR,ST	SCF,TDR,HSF	r4	
Common koel	*Eudynamis scolopacea*	*scolopacea*	120m	1800m	TR,ST	HV,CTF	r1	
16.TYTONIDAE								

Oriental scops owl	*Otus sunia*	*sunia*	120m	1525m	TR,ST	SEF,TDR,SCF,HSF,PRF	v	
Mountain scops owl	*Otus spilocephalus*	*spilocephalus*	1525m	2590m	TR,ST,TM	GCL,GCL,GSL	r2	
		huttoni	1525m	2590m	TR,ST,TM	GCL,GCL,GSL	r2	R
Northern eagle owl	*Bubo bubo*	*bengalensis*	915m	3415m	TR,ST,TM,SA	HV,CTF,CAF,GSL	r4	
Spot bellied eagle owl	*Bubo nipalensis*	*nipalensis*	305m	1982m	TR,ST	TDR,GSL,WTB,SEF	r	
Collared owlet	*Glaucidium brodiei*	*brodiei*	610m	3050m	ST,TM	WTB,CTB	r2	
Jungle owlet	*Glaucidium radiatum*	*radiatum*	120m	1600m	TR,ST	DMS,WTB,SEF	r5	
Asia barred owlet	*Glaucidium cucloides*	*cuculoides*	160m	2440m	TR,ST,TM	HSF,SEF,PRF	r1	
Northern little owl	*Athene noctua*	*ludlowi*	245m	4155m	TM,SA,AL	HV,GCL,GBC	r5	
Spotted little owl	*Athene brama*	*indica*	120m	1525m	TR,ST	HV,GCL,GBC,CTF	r3	
Tawny owl	*Strix alucao*	*nivicola*	2287m	3965m	TM,SA	WTB,CTB	r4	
		biddulphi	2287m	3965m	TM,SA	WTB,CTB	r4	
Short eared owl	*Asio flammeus*	*flammeus*	244m	3320m	TR,ST,TM	CTF,CAF,DMS	wm5	
17.CAPRIMULGIDAE								
Jungle nightjar	*Caprimulgus indicus*	*hazarae*	610m	2895m	TR,ST,TM	CTF,CAF,DMS	r2	
18.APODIDAE								
Himalayan swiftlet	*Collocalia brevirostris*	*brevirostris*	152m	4575m	TR,ST,TM,SA,AL	GCL	r2	
White throated needletail	*Hirundapus caudacutus*	*nudipes*	152m	3100m	TR,ST,TM	TDR,GAL,GCL	r	
Common swift	*Apus apus*	*pekinensis*	2000m	3795m	TM,SA,AL	GCL	s2	
Pacific swift	*Apus pacificus*	*leuconyx*	75m	3800m	TR,ST,TM,SA	GCL	s2	
Alpine swift	*Apus melba*	*nubifuga*	120m	3700m	TR,ST,TM	GCL,GAL	r2	
Little swift	*Apus affinis*	*nipalensis*	75m	2135m	TR,ST	HV	r1	
19.TROGONIDAE								
Red headed trogon	*Harpactes erythrocephalus*	*hodgsonii*	152m	1830m	TR,ST	SEF,HSF,SCF	r5	E
20.ALCEDINIDAE								
White breasted kingfisher	*Halcyon smyrnensis*	*fusca*	120m	3050m	TR,ST	WPS,CTF,TDR	r5	
Eurasian kingfisher	*Alcdo atthis*	*bengalensis*	120m	3050m	TR,ST	TDR,WPS	r3	
Crested kingfisher	*Ceryle iugubris*	*continentalis*	250m	3000m	TR,ST	GCL,TDR,WPS	r3	
Small pied kingfisher	*Ceryle rudis*	*leucomelanura*	152m	1000m	TR	TDR,GAL	r1	
21.MEROPIDAE								
Green bee eater	*Herops orientalis*	*orientalis*	120m	2135m	TR,ST	CTF,CAF	m5	
22.CORACIIDAE								
Indian roller	*Corcias benghalensis*	*benghalensis*	120m	3655m	TR,ST	WTB,CTF,CAF,SEF,HSF	r5	
	Corcias benghalensis	*affinis*	120m	3655m	TR,ST	WTB,CTF,CAF,SEF,HSF	r5	

23.UPUPIDAE								
Hoopoe	*Upupa epops*	*epops*	120m	5795m	TR,ST,TM,SA,AL	DAG,MAG,DAS,MAS,CTF,HV	rsm1	
		saturata	120m	5795m	TR,ST,TM,SA,AL	DAG,MAG,DAS,MAS,CTF,HV	rsm1	
24.CAPITONIDAE								
Great barbet	*Megalaima virens*	*marshallorum*	305m	3050m	TR,ST,TM	WTB,CTB	r1	
		magnificus	305m	3050m	TR,ST,TM	WTB,CTB	r1	
Golden throated barbet	*Megalaima franklinii*	*franklinii*	305m	2745.	ST,TR,TM	WTB,CTB,TDR,SEF	r3	
Blue throated barbet	*Megalaima asiatica*	*asiatica*	120m	1830m	TR,St	SEF,HSF	r2	
25.INDICATORIDAE								
Orange rumped honeyguide	*Indicator xanthonotus*	*xanthonotus*	610m	3300m	TR,ST,TM	GCL,TDR,WTB,CTB	r4	R*
26.PICIDAE								
Eurasian wryneck	*Jynx torquilla*	–	120m	3445m	TR,St	CTF,CAF,WML	m3	
Speckeled piculet	*Picumnus innominatus*	*innominatus*	274m	1830m	TR,St	WTB,HSF,SCF,PRF	r3	
Rufous woodpecker	*Celeus brachyurus*	*phaioceps*	120m	1525m	TR,St	WTB,SEF,HSF,SCF	r5	
		rumei	120m	1525m	TR,St	WTB,SEF,HSF,SCF	r5	
Greater yellow naped ,,	*Picus flavinucha*	*flavinucha*	305m	2135m	TR,St	SEF,WTB,HSF,SCF	r3	
Lesser yellow naped ,,	*Picus chlorolophus*	*simlae*	120m	2135m	TR,St	SEF,WTB,HSF,SCF	r3	
		chlorolophus	120m	2135m	TR,St	SEF,WTB,HSF,SCF	r3	
Grey headed woodpecker	*Picus canus*	*sanguiniceps*	152m	2440m	TR,ST,TM	WTB,HSF,SCF,SEF,	r2	
		hessei	152m	2440m	TR,ST,TM	WTB,HSF,SCF,SEF,	r2	
Scaly bellied green ,,	*Picus squamatus*	*squamatus*	1850m	3700m	TM,SA,ST	WTB,CAB,SAF	r2	
Greater golden backed ,,	*Chrysocolaptes lucides*	*sultaenus*	120m	1525m	TR,St	SEF,TDR,HSF,CTF	r5	
		gutacristatus	120m	1525m	TR,St	SEF,TDR,HSF,CTF	r5	
Bay woodpecker	*Blythipicus pyrrhotis*	*pyrrhotis*	1525m	2500M	ST,TM	WTB,SCF	r5	V
Darjeeling pied woodpecker	*Dendrocopos darjeliensis*	*darjeliensis*	1830m	3751m	TM,SA	CTB,SAF	r2	+
Crimson breasted bied woodpecker	*Dendrocopos cathpharius*	*cathpharius*	1500m	3050m	ST,TM	WTB,CTB,PRF	r2	+
Rofous bellied pied woodpecker	*Dendrocopos hyperythrus*	*hyperythrus*	1830m	3202m	ST,TM	WTB,PRF,CTB	r2	
Brown fronted pied woodpecker	*Dendrocopos auriceps*	*auriceps*	1065m	2897m	ST,TM	WTB,PRF	r2	+
		incognitus	1065m	2897m	ST,TM	WTB,PRF	r2	
Fulvous breasted pied woodpecker	*Dendrocopos macei*	*macei*	152m	2745m	TR,ST,TM	WTB,PRF,SEF	r1	
Himalayan pied woodpecker	*Dendrocopos himalayensis*	*himalayensis*	1830m	3050m	ST,TM	WTB,CTB	r2	
27.ALAUDIDAE								
Greater short–toed lark	*Calandrella brachydactyla*	*dukhunensis*	1300m	5000m	ST,TM,SA,AL	CTF,GAL,DAS,DAG	m1	
Hume's short–toed lark	*Calandrella acutirostris*	*tibetana*	3660m	4575m	SA,AL	DAS,DAG,GAL,GBA	m4	
Oriental skylark	*Alauda gulgula*	*innopinata*	120m	4400m	TR,ST,TM,SA,AL	CTF,GBA,MAG,DAG	rw2	
		ihamarum	120m	4400m	TR,ST,TM,SA,AL	CTF,GBA,MAG,DAG	rw2	
Horned lark	*Eremophila alpestris*	*elwesi*	3965m	5900m	TM,SA,SL,AR	CEF,GBA,MAG,DAG	w5	

28.HIRUNDINIDAE

Brown throated sand martin	*Riparia paludicola*	*chinensis*	274m	2990m	TR,ST,TM	GBA,GCL	r1
Collared sand martin	*Riparia riparia*	*ijimae*	75m	3000m	TR,ST	GCL	m5
		diluta	75m	3000m	TR,ST	GCL	m5
Crag martin	*Ptyonoprogne rupestris*	–	915m	4575m	TR,ST,TM,SA,AL	GCL	r2
Barn swallow	*Hirundo rustica*	*rustica*	152m	6400m	TR,ST,TM,SA,AL	CTF,HV	rsb1
		gutturalis	152m	6400m	TR,ST,TM,SA,AL	CTF,HV	rsb1
Red–rumped swallow	*Hirundo daurica*	*nipalensis*	274m	2745m	TR,ST,TM	GCL,WPS	rsb1
		daurica	274m	2745m	TR,ST,TM	GCL,WPS	w
		japonica	274m	2745m	TR,ST,TM	GCL,WPS	w
Nepal house–martin	*Delichon nipalensis*	*nipalensis*	305m	3500m	TR,ST	GCL,MAG	r2
Common house martin	*Delicon urbica*	–	305m	4575m	TR,ST,TM,SA,AL	GCL	–
Asian house martin	*Delichon dasypus*	–	305m	4575m	TR,ST,TM,SA,AL	GCL	–

29.MOTACILIDAE

Richard's pipit	*Anthus novaeseelandiae*	*richard*	–	1830m	TR,ST	DMS,CTF,CAF	wm3
		rufulus	–	2440m	TR,ST	DMS,CTF,CAF,MSG	rs1
Olive–packed pipit	*Anthus hodgsoni*	*yunanensis*	274m	4000m	TR,ST,TM	DMS,CTF,MSG,MPG	w1
		Hodgsoni	274m	4000m	TR,ST,TM	DMS,CTF,MSG,MPG	r1
Tree pipit	*Anthus trivialis*	*trivialis*	274m	2135m	TR,ST	CTF,CAF,DMS	m5
Red throated pipit	*Anthus cervinus*		700m	5185m	TR,ST,TM,SA,AL	MAG,CTF,CAF	m4
Rosy pipit	*Anthus roseatus*		760m	5050m	TR,ST,SA,AL	MAG,DAG,GBA,CTF,WML	rmb2
Water pipit	*Anthus spinoletta*	*blackistoni*	75m	2700m	TR,ST,TM	CTF,CAF,WPS	m5
Upland pipit	*Anthus sylvanus*	–	1372m	2900m	ST,TM	GCL,MPG	r2
Yellow wagtail	*Motacilla flava*	*beema*	152m	1525m	TR,ST	MPG,MSG,WPS.WML	m3
		thunbergi	152m	1525m	TR,ST	MPG,MSG,WPS,WML	m3
		melanogrisea	152m	1525m	TR,ST	MPG,MSG,WPS,WML	m3
		leucocephala	152m	1525m	TR,ST	MPG,MSG,WPS,WML	m3
Citrine wagtail	*Motacilla citreola*	*calcarata*	120m	3965m	TR,ST,TM,SA	WPS,WML	m4
		citreola	120m	3965m	TR,ST,TM,SA	WPS,WML	m4
		werae	120m	3965m	TR,ST,TM,SA	WPS,WML	m4
Grey wagtail	*Motacilla cinerea*	*cinerea*	152m	3965m	TR,ST,TM,SA	WPS,WML,TDR	r1
White wagtail	*Motacilla alba*	*dukhunensis*	120m	5000m	TR,ST,TM,SA	WPS,WML,TDR	rwm1
		alboides	120m	5000m	TR,ST,TM,SA	WPS,WML,TDR	rwm1
		personata	120m	5000m	TR,ST,TM,SA	WPS,WML,TDR	rwm1
		baicalensis	120m	5000m	TR,ST,TM,SA	WPS,WML,TDR	rwm1
		leucopsis	120m	5000m	TR,ST,TM,SA	WPS,WML,TDR	rwm1
White–browed wagtail	*Motacilla maderaspatensis*	–	120m	1700m	TR,ST	WPS,WML,TDR	r5

30.CAMPEPHAGIDAE

Large cuckoo–shrike	*Coracina macei*	*nipalensis*	244m	2135m	TR,ST,TM	SEF,WTB	r1
Black–winged cuckoo shrike	*Coracina melaschistosis*	*melaschistosis*	152m	2200m	TR,ST	SEF,SCF,HSF	r3
Bar–winged flycatcher–shrike	*Hemipus picatus*	*capitalis*	152m	1830m	TR,ST	SEF,SCF,HSF	r3
Scarlet minivet	*Pericrocotus flammeus*	*speciosus*	152m	2200m	TR,ST	SEF,HSF,WTB,PRF	r1

Short–billed minivet	*Pericrocotus brevirostris*	*brevirostris*	152m	2745m	TR,ST,TM	TDR,WTB,SEF,HV	r5	R
Long–tailed minivet	*Pericrocotus ethologus*	*flavillaceus*	305M	3965M	ST,TM	CTF,CAF,WTB,SEF	r1	
		laetus	305M	3965M	ST,TM	CTF,CAF,WTB,SEF	r1	
Grey–chinned minivet	*Pericrocotus solaris*	*solaris*	250m	2075m	TR,ST,TM	SEF,SCF,HSF,TDR	r5	E
31.PYCNONOTIDAE								
Striated bulbul	*Pycnonotus striatus*	*striatus*	1500m	2650m	ST,TM	WTB,CTB,SEF	r3	+
White–cheeked bulbul	*Pycnonotus leucogenys*	*leucogenys*	250m	3050M	TR,ST,TM	DMS,CTF,CAF	r1	
Red–vented bulbul	*Pycnonotus cafer*	*bengalensis*	120m	2135m	TR,ST	CTF,CAF,DMS	r1	
Mountain bulbul	*Hypsipetes mcclellandii*	*mcclellandii*	915m	2287m	ST,TR	DMS,TDR,HSF,SEF	r2	
Black bulbul	*Hypsipetes leucocephalus*	*psaroides*	120m	2700m	ST,TR,TM	HSF,SEF,SCF,WTB	r1	
Brown eared bulbul	*Hypsipetes flavalus*	*flavalus*	305m	1525m	TR,ST	HSF,SEF,SCF,WTB,DMS	r3	
Red whiskered bulbul	*Pycnonotus jocosus*	–	–	–	–	–	–	–
32.IRENIDAE								
Orange bellied leafbird	*Chloropsis hardwickii*	*hardwickii*	915m	2440m	TR,ST	SEF,SCF,WTB	r3	
33.CINCLIDAE								
White breasted dipper	*Cinclus cinclus*	*cashmeriensis*	3355m	4575m	SA,AL	WPS,GBA	–	
Brown dipper	*Cinclus pallasii*	*tenuirostrisr*	457m	4960m	TR,ST,TM,SA,AL	WPS	r1	
34.TROGLODYTIDAE								
Northern wren	*Troglodytes troglodytes*	*nipalensis*	2440m	5300m	TM,SA,AL,AR	GCL,GBA	r2	
35.PRUNELLIDAE								
Maroon backed accentor	*Prunella immaculata*	–	1830m	2700m	ST,TM	MPG,WTB,CTB	w3	
Rufous–breasted accentor	*Prunella strophiata*	*strophiata*	1600m	4930m	TM,SA,AL	DAS,DMS,DAS	r2	+
		jerdoni	1600m	4930m	TM,SA,AL	DAS,DMS,DAS	r2	
Brown accentor	*Prunella fulvescens*	*sushkini*	2300m	4880m	SA,AL,AR	DAS,DAG,GBA	rw2	
Black throated accentor	*Prunella atrogularis*	*huttoni*	2440m	3050m	TM,SA,AL	CTF,CAF,DAS,DAG	w5	
Robin accentor	*Prunella rubeculoides*	–	2655m	5000m	TM,SA,AL,AR	DAS,DAG,GBA,DMS	w2	+
Altai accentor	*Prunella himalayana*	–	1340m	4270m	TM,SA,AL	DAG,DMS	w2	
Alpine accentor	*Prunella collaris*	*nipalensis*	2440m	7900m	SA,AL,AR	DAG,DAS,GCL,GBA	w2	
36.TURDIDAE								
Gould's shortwing	*Brachypteryx stellata*	*stellata*	1982m	3812m	TM,SA	WTB,CTB	r3	R*
White browed shortwing	*Brachypteryx montana*	*cruralis*	245m	3660m	TM,SA	WTB,CTB,GCL	r5	R
Blue throat	*Luscinia svecica*	*pallidogularis*	120m	3445m	TR,ST	GCL,TDR	m4	
White–tailed rubythroat	*Luscinia pectoralis*	*pectoralis*	274m	5185m	SA,AL	SAF,DMS	s3	
		tschebaiewi	274m	5185m	SA,AL	SAF,DMS	s3	
Indian blue robin	*Luscinia brunnea*	*brunnea*	274m	3446m	TM,SA	CTB,GCL	s2	+

Orange flanked blue robin	*Tarsiger cyanurus*	*rufilatus*	1370m	4117m	ST,TM,SA	DMS,WTB,CTB,SEF,SAF	r1	
Golden bush robin	*Tarsiger chrysaeus*	*chrysaeus*	1372m	4270m	ST,TM,SA,AL	SEF,WTB,CTB,DMS	r3	+
White browed bush robin	*Tarsiger indicus*	*indicus*	2135m	4000m	TM,SA,AL	SAF,CTB	r3	
Rufous–breasted bush robin	*Tarsiger hyperythrus*	–	2135m	4200m	TM,SA,AL	SAF,DMS,CTB	r3	*
Asian magpie robin	*Copsychus saularis*	*saularis*	120m	3050m	TR,ST,TM	CTF,CAF,WTB,SEF	r3	
Rufous backed redstart	*Phoenicurus erythronotus*	–	2287m	3350m	SA,TM	CTF,CAF,DMS,GBA	w3	
Blue capped redstart	*Phoenicurus caeruleocephalus*	–	1370m	4270m	TM,SA,AL	DAS,DAG,GBA	r2	
Black redstart	*Phoenicurus ochruros*	*rufiventris*	700m	5700m	SA,AL,ST	DAG,GBA,DAS,CTF	sb2	
Hodgsons redstart	*Phoenicurus hodgsoni*	–	762m	5030m	TR,ST,TM,SA,AL	DAG,DMS,CTF,CAF	w1	
Blue fronted redstart	*Phoenicurus frontalis*	–	455m	4900m	ST,TM,SA,AL	CTB,SAF,CTB,GBA,CTF	r1	+
White throated redstart	*Phoenicurus schisticeps*	–	2500m	4200m	TM,SA,AL	DAG,GBA	r3	+
Guldenstadt's Redstart	*Phoenicurus erythrogaster*	*grandis*	2650m	5642m	TM,SA,AL,AR	DAG,GBA,DAS	w2	
Pleumbois redstart	*Rhyacornis fuliginosus*	*fuliginosus*	75m	4420m	TR,ST,TM,SA	TDR,GCL	r1	
White–bellied redstart	*Hodgsonius phoenicuroides*	*phoenicuroides*	213m	4270m	TR,ST,TM,SA	CTB,SAF,DAS,DMS	sb3	+
White tailed blue robin	*Cinclidium leucurum*	–	915m	2745m	TR,ST,TM	TDR,SEF,WTB,GCL	r4	R
Grandala	*Grandala coelicolor*	–	3000m	5500m	SA,AL,AR	DAG,GBA	rw2	+
Common stonechat	*Saxicola torquata*	*maura*	270m	4880m	TM,SA,AL	DAS,CTF,CAF,GBA	rmw1	
		przevalskii	270m	4880m	TM,SA,AL	DAS,CTF,CAF,GBA	rmw1	
		indica	270m	4880m	TM,SA,AL	DAS,CTF,CAF,GBA	rmw1	
Pied bushchat	*Saxicola caprata*	*bicolor*	244m	2665m	ST,TM	MAS,DAS,MAG,DAS,CTF,DMS	r2	
Grey bushchat	*Saxicola ferrea*	*ferrea*	255m	3355m	ST,TM,SA	DMS,CAF	r2	
Isabelline Wheatear	*Oenanthe isabellina*	–	–	1372m	ST	CTF,CAF	m5	
Desert wheatear	*Oenanthe deserti*	*oreophila*	2650m	4880m	TM,SA,AR	DAG,DAS,GBA	sm2	
White capped redstart	*Chaimarronis leucocephalus*		915m	5100m	TM,SA,AL	GCL,GAL,TDR	r1	
Blue–capped rock–thrush	*Monticola cinclorhyncha*	–	274m	2135m	TR,ST	DMS,PRF	s3	+
Chestnut–bellied rock–thrush	*Monticola rufiventris*	–	915m	4480m	TR,ST,TM	SEF,HSF,WTB,WTB,CTB	r2	
Blue rock–thrush	*Monticola solitarius*	*pandoo*	120m	4880m	TR,ST,TM,SA,AL	TDR,DMS,WTB,CTB	r2	
		philipensis	120m	4880m	TR,ST,TM,SA,AL	TDR,DMS,WTB,CTB	r2	
Blue whistling thrush	*Myiophoneus caeruleus*	*temminckii*	213m	4600m	ST,TM,SA	GCL,TDR	r1	
Plain–backed mountain thrush	*Zoothera mollissima*	*mollissima*	1500m	4000m	ST,TM,SA	CTB,MAG,WAP	r2	+
Long–tailed mountain thrush	*Zoothera dixoni*	–	1500m	4250m	ST,TM,SA	WTB,CTB	r3	+
Scaly thrush	*Zoothera dauma*	*dauma*	120m	3540m	TR,ST,TM,SA	SEF,HSF,WTB,CTB	r3	
Long–billed thrush	*Zoothera monticola*	*monticola*	915m	3850m	ST,TM,SA	TDR,GCL,WTB	r4	R*
Pied ground thrush	*Zoothera wardii*	–	1500m	3050m	ST,TM,SA	TDR,GCL,WTB	s4	*
Orange–headed ground thrush	*Zoothera citrina*	*citrina*	250m	1830m	TR,ST	GCL,TDR	s4	
Tickell's thrush	*Turdus unicolor*	–	1500m	2745m	ST,TM	MAS,DMS,WTB	s3	+
White–collared blackbird	*Turdus albocinctus*	–	1500m	3446m	ST,TM,SA	WTB,CTB,SAF	r2	+
Grey–winged blackbird	*Turdus boulboul*	–	120m	3300m	ST,TM,SA,TR	HSF,SEF,WTB,CTB,SAf	r2	+
Eurasian blackbird	*Turdus merula*	*maximus*	244m	4270m	SA,AL	SAF,MAS,DMS	m5	
Chestnut thrush	*Turdus rubrocanus*	*rubrocanus*	915m	2745m	ST,TM	WTB,CTB	w4	
		gouldii	915m	2745m	ST,TM	WTB,CTB	w4	
Rufous–tailed thrush	*Turdus naumanni*	*eunomus*	915m	2850m	TR,ST,TM	MAS,DAS,SEF,WTB	w5	
		naumanni	915m	2850m	TR,ST,TM	MAS,DAS,SEF,WTB	w5	
Dark–throated thrush	*Turdus ruficollis*	*atrogularis*	120m	3900m	TM,SA,ST,TR	MAG,DMS,MSG	w1	
		ruficollis	120m	3900m	TM,SA,ST,TR	MAG,DMS,MSG	w1	
Mistle thrush	*Turdus viscivorus*	*bonapartei*	2135m	3800m	TM,SA	CTB,MAG	r2	
Little forktail	*Enicurus scouleri*	*scouleri*	366m	4239m	ST,TM,SA,AL	GCL,WPS	r2	

Black–backed forktail	*Enicurus immaculatus*	–	152m	1370m	TR,ST	TDR,SEF	r4	+
Slaty–backed forktail	*Enicurus schistaceus*	–	900m	1677m	ST,TR	WPS,GCL	r2	
Spotted forktail	*Enicurus maculatus*	*maculatus*	290m	3100m	ST,TM,TR	GCL,TDR	r1	
		guttatus	290m	3100m	ST,TM,TR	GCL,TDR	r1	
Chestnut headed tesia	*Tesia castaneocoronator*	*castaneocorona*	120m	4000m	TM,SA	WTB,CTB,SEF	r2	+
Grey bellied tesia	*Tesia cyaniventer*	–	120m	2440m	TR,ST,TM	TDR,SEF,WTB	r3	
37.SYLVIIDAE								
Chestnut–crowned bush warbler	*Cettia major*	*major*	120m	4117m	TR,ST,TM,SA	WTB,CTB,DMS,WML	sb5	*
Aberrant bush warbler	*Cettia flavolivacea*	*flavolivacea*	915m	3600m	TR,ST,TM,SA	DMS,MPG,MSG	r1	+
Yellow bellied bush warbler	*Cettia acanthizoides*	*brunnescens*	2000m	3660m	TM,SA	WTB,CTB	s5	I
Grey–sided bush warbler	*Cettia brunnifrons*	*brunnifrons*	75m	4000m	ST,TM,TR,SA	MAS,DMS	r1	I
Spotted bush warbler	*Bradypterus thoracicus*	*thoracicus*	457m	3850m	TM,SA,ST,TR	WTB,CTB,WML	sb5	+
Striated prinia	*Prinia criniger*	*criniger*	75m	2745m	ST,TM	DMS,MAG,CTF	r1	
Common tailorbird	*Orthotomus sutorius*	*patia*	75m	1830m	TR,ST	SEF,CTF,CAF	r1	
Blyth's reed warbler	*Acrocephalus dumetorum*	–	274m	2900m	ST,TM,TR	DMS,CTF,CAF	w5	
Booted warbler	*Hippolais caligata*	*caligata*	550m	2810m	TR,ST,TM	CTF,CAF,TDR,SEF	v	
Lesser whitethroat	*Sylvia curruca*	*blythi*	854m	2750m	ST,TM	DMS	wm5	
Golden–spectacled warbler	*Seicercus burkii*	*burkii*	150m	3800m	TM,SA,ST,TR	CTB,WTB,SAF,SEF,DMS	r1	
Grey–cheeked warbler	*Seicercus poliogenys*	–	240m	3100m	TM,ST,TR	WTB,CTB,SEF,DMS	r5	E+
Chestnut–crowned warbler	*Seicercus castaniceps*	*castaniceps*	250m	2750m	ST,TM,TR	WTB,CTB,SEF	r3	
Grey hooded warbler	*Seicercus xanthoschistos*	*albosuperciliaris*	245m	2750m	ST,TM,TR	WTB,CTB,PRF	rb1	I
		xanthoschistos	245m	2750m	ST,TM,TR	WTB,CTB,PRF	rb1	
Black–faced warbler	*Abroscopus schisticeps*	*schisticeps*	1525m	2700m	ST,TM	WTB,CTB,DMS	r2	+
Blyth's crowned warbler	*Phylloscopus reguloides*	*reguloides*	274m	3800m	TM,ST,SA,TR	WTB,CTB,SAF,DMS	r1	
Western crowned warbler	*Phylloscopus occipitalis*	–	1500m	2000m	ST,TM	WTB,CTB,PRF	m5	
Greenish warbler	*Phylloscopus trochiloides*	*viridanus*	274m	4270m	SA,TM,AL,ST,TR	WTB,CTB,SAF,CTF,CAF	swm2	
		trochiloides	274m	4270m	SA,TM,AL,ST,TR	WTB,CTB,SAF,CTF,CAF	swm2	
Large–billed leaf warbler	*Phylloscopus magnirostris*	–	274m	3660m	TM,ST,TR	WTB,CTB,SEF	s4	+
Orange–barred leaf warbler	*Phylloscopus pulcher*	*pulcher*	75m	4265m	TM,SA,AL	SAF,DMS,CTB,WTB	r1	+
		kangrae	75m	4265m	TM,SA,AL	SAF,DMS,CTB,WTB	r1	
Grey–faced leaf warbler	*Phylloscopus maculipennis*	*maculipennis*	915m	3500m	TM,SA,ST,SA	WTB,CTB,SAF,DMS	r1	
Pallas's leaf warbler	*Phylloscopus proregulus*	*simiaensis*	274m	4000m	ST,TM,SA	WTB,CTB,SAF,DMS	r1	
		chloronotus	274m	4000m	ST,TM,SA	WTB,CTB,SAF,DMS	r1	
Yellow–browed warbler	*Phylloscopus inornatus*	*inornatus*	274m	3965m	TM,SA,ST	WTB,CTB,SAF	wm1	
		humei	274m	3965m	TM,SA,ST	WTB,CTB,SAF	wm1	
Smoky warbler	*Phylloscopus fuligiventer*	*fuligiventer*	152m	5000m	SA,AL,TM,ST,TR	SAF,DMS,WTB,CTB	s5	
Yellow vented warbler	*Phylloscopus cantator*	–	305m	2000m	TM,SA,ST	WTB,CTB,SAF	4	
Tickell's warbler	*Phylloscopus affinis*	*arcanus*	152m	4880m	SA,AL,TM,ST,TR	SAF,DMS	r2	
		affinis	152m	4880m	SA,AL,TM,ST,TR	SAF,DMS	r2	
Chiffchaff	*Phylloscopus collybita*	*tristis*	152m	2800m	TM,ST	DMS	wm2	
Goldcrest	*Regulus regulus*	*himalayensis*	2200m	4000m	SA,TM	SAF	r2	
		sikkimensis	2200m	4000m	SA,TM	SAF	r2	
Stoliczka's tit–warbler	*Leptopoecile sphiae*	*obscura*	2700m	4575m	TM,SA,AL	DAS,DAG,GBA	rb3	
38.MUSCICAPIDAE								

Large niltava	*Niltava grandis*	*grandis*	1525m	2850m	TM,ST	WTB,CTB,GCL	r4	V
Small niltava	*Niltava macgrigoriae*	*macgrigoriae*	270m	2200m	ST,TR,TM	MPG,WPS	s2	
Rufous-bellied niltava	*Niltava sundara*	*sundara*	274m	3200m	TM,ST,TR	DMS,WTB	r1	+
Hill blue flycatcher	*Cyornis banyumas*	*magnirostris*	1250m	3350m	ST,TM,SA	WTB,CTB,GCL	m5	V
Pygmy blue flycatcher	*Muscicapella hodgsoni*	*hodgsoni*	305m	3500m	TM,SA,ST,TR	WTB,CTB,GCL	r5	V
Verditer flycatcher	*Muscicapa thalassina*	*thalassina*	152m	3000m	ST,TM,TR	WTB,CTB,SEF,DMS	s1	
Ferruginous flycatcher	*Muscicapa ferruginea*	–	2000m	3300m	TM,ST,SA	CTB,WTB	s5	R
Asian sooty flycatcher	*Muscicapa sibirica*	*cacabata*	274m	3355m	TM,ST,SA	WTB,CTB,SAF,SEF	s2	
Rufous-tailed flycatcher	*Muscicapa ruficauda*	–	762m	3655m	TM,SA,ST	WTB,CTB,SAF	s4	–
Asian brown flycatcher	*Muscicapa latirostris*	*latirostris*	274m	1550m	ST	SEF,SCF,SAF,DMS	s1	
Slaty-blue flycatcher	*Ficedula tricolor*	*tricolor*	160m	4000m	SA,ST,TR,TM	DMS,MAG,MAS	r1	
		minuta	160m	4000m	SA,ST,TR,TM	DMS,MAG,MAS	r1	
Ultramarine flycatcher	*Ficedula superciliaris*	*aestigma*	1500m	3200m	TM,ST,SA	WTB,CTB	s1	+
		superciliaris	1500m	3200m	TM,ST,SA	WTB,CTB	s1	
Little pied flycatcher	*Ficedula westermanni*	*collini*	275m	3000m	ST,TM,TR	WTB,CTB	s4	R
Slaty backed flycatcher	*Ficedula hodgsonii*	–	245m	3450m	ST,TM,SA,TR	WTB,CTB,SAF,SEF	m5	+
Snowy-browed flycatcher	*Ficedula hyperythra*	*hyperythra*	274m	3000m	TM,ST,TR	CTB,WTB,DMS,SEF	s3	
White-gorgetted flycatcher	*Ficedula monileger*	*monileger*	1500m	2440m	TM,ST	CTB,WTB,DMS	r5	V
Orange-gorgetted flycatcher	*Ficedula strophiata*	*strophiata*	245m	4000m	TM,SA,ST,TR	CTB,WTB,SAF	r1	
Red-breasted flycatcher	*Ficedula parva*	*albicilla*	244m	1830m	TR,ST	DMS,CTF,CAF	wm2	
Grey-headed flycatcher	*Culicicapa ceylonensis*	*pallidior*	75m	3100m	TM,ST,TR	SEF,WTF,DMS	r4s1	
Yellow bellied fantail	*Rhipidura hypoxantha*		245m	4000m	TM,SA,ST,TR	WTB,CTB,SAF	r1	+
White throated fantail	*Rhipidura albicollis*	*canescens*	120m	2440m	ST,TR	GCL,TDR,SEF	r3	
		albicolli	120m	2440m	ST,TR	GCL,TDR,SEF	r3	
Paradise flycatcher	*Terpsiphone paradisi*	*leucogaster*	274m	1850m	TR,ST	DMS,CTF,CAF		
39.TIMALIIDAE								
Rufous capped babbler	*Stachyris ruficeps*	*ruficeps*	1220m	1645m	ST,TM	WTB,CTB,GBF,DMS		
Rusty-cheeked scimiter babbler	*Pomatorhinus erythrogenys*	*erythrogenys*	305m	2440m	ST,TR	DMS,MAS,CTF,CAF	r1	
		harringtoni	305m	2440m	ST,TR	DMS,MAS,CTF,CAF	r1	
White-browed ,, ,,	*Pomatorhinus schisticeps*	*schisticeps*	245m	1982m	TR,ST	DMS,SEF	r3	
Streak-breasted ,, ,,	*Pomatorhinus ruficollis*	*ruficollis*	274m	2592m	TR,ST,TM	DMS,WTB,SEF	r2	
		godwini	274m	2592m	TR,ST,TM	DMS,WTB,SEF	r2	
Slender-billed ,, ,,	*Xiphirhynchus superciliaris*	*superciliaris*	1500m	3050m	TM,ST	WTB,CTB	r5	V+
Greater scaly-breasted wren ,,	*Pnoepyga albiventer*	*pallidior*	275m	4000m	TM,ST,SA,TR	CTB,WTB,SAF,TDR,GCL	r2	+
		albiventer	275m	4000m	TM,ST,SA,TR	CTB,WTB,SAF,TDR,GCL	r2	
Lesser scaly ,, ,, ,,	*Pnoepyga pusilla*	*pusilla*	275m	3000m	TM,ST,TR	CTB,WTB,TDR,GCL	r3	
Black-chinned babbler	*Stachyris pyrrhops*	–	305m	2440m	ST,TM,TR	DMS	r2	+
Golden babbler	*Stachyris chrysaea*	*chrysaea*	1800m	2440m	ST,TM	WTB,CTB	r5	E
Grey-throated babbler	*Stachyris nigriceps*	*nigriceps*	245m	2000m	ST,TR	SEF,TDR	r5	
Great parrotbill	*Conostoma aemodium*	–	2700m	3660m	TM,SA	BGF,CTB	r4	V*
Brown parrotbill	*Paradoxornis unicolor*	*unicolor*	2590m	3050m	TM,SA	BGF,CTB	r4	V*
Fulvous parrotbill	*Paradoxornis fulvifrons*	*fulvifrons*	2592m	3507m	TM,SA	BGF,CTB	r4	V*
Black-throated parrotbill	*Paradoxornis nipalensis*	*nipalensis*	1050m	3050m	TM,SA	BGF,WTB	r4	R
Spiny babbler	*Turdoides nipalensis*	–	915m	2135m	ST,TR,TM	DMS,CAF	r3	*

White-throated laughing-thrush	*Garrulax albogularis*	*albogularis*	1220m	3500m	TM,ST,SA	WTB,DMS,SEF	r1	+
White-crested ,, ,,	*Garrulax leucolophus*	*leucolophus*	305m	2135m	ST,TR,TM	WTB,DMS,SEF	r1	
Striated laughing-thrush	*Garrulax striatus*	*vibex*	610m	2850m	ST,TM,TR	WTB,CTB	r1	+
		sikkimensis	610m	2850m	ST,TM,TR	WTB,CTB	r1	
Variegated ,, ,,	*Garrulax variegatus*	*variegatus*	2100m	4100m	TM,SA,AI	WTB,CTB,PRF,SAF	r1	+
Rufous-chinned ,, ,,	*Garrulax rufogularis*	*occidentalis*	915m	2135m	ST,TM,TR	SEF,WTB	r3	
		rufogularis	915m	2135m	ST,TM,TR	SEF,WTB	r3	+
Spotted laughing-thrush	*Garrulax ocellatus*	*griseicauda*	2135m	3660m	TM,SA	SAF,DAS,MAS	r2	V+
		ocellatus	2135m	3660m	TM,SA	SAF,DAS,MAS	r2	
Grey-sided ,, ,,	*Garrulax caerulatus*	*caerulatus*	1370m	2745m	ST,TM	SEF,WTB,CTB	r5	+
Streaked ,, ,,	*Garrulax lineatus*	*lineatus*	1065m	3905m	ST,TM,SA	DMS,CTF,CAF	r1	
Blue-winged ,, ,,	*Garrulax squamatus*	–	1220m	2440m	ST,TM	SEF,WTB,DMS	r5	E+
Scaly laughing-thrush	*Garrulax subunicolor*	*subunicolor*	1500m	3450m	ST,TM,SA	SEF,WTB,DMS	r3	
Black-faced ,, ,,	*Garrulax affinis*	*affinis*	1830m	4600m	ST,TM,SA,AL	SEF,WTB,CTB,SAF,DMS	r1	E+
		bethelae	1830m	4600m	ST,TM,SA,AL	SEF,WTB,CTB,SAF,DMS	r1	V+
Chestnut-crowned ,, ,,	*Garrulax erythrocephalus*	*kali*	1100m	3355m	ST,TM,SA	SEF,WTB,CTB,DMS	r1	+
		nigrimentum	1100m	3355m	ST,TM,SA	SEF,WTB,CTB,DMS	r1	
Red-billed leiothrix	*Garrulax lutea*	*calipyga*	915m	2745m	TM,ST	GCL,DMS,SEF,WTB,CTB	r2	
Fire-tailed myzornis	*Myzornis pyrrhoura*	–	2135m	3950m	TM,SA	WTB,CTB,SAF,BGF	r5	R*
Cutia	*Cutia nipalensis*	*nipalensis*	1095m	2745m	ST,TM	WTB,CTB,SEF	r5	E
Black-headed shrike babbler	*Pteruthius rufiventer*	–	2135m	2500m	TM	WTB,CTB	r5	E+
White-browed shrike babbler	*Pteruthius flaviscapis*	*validirostris*	305m	2200m	ST,TR	SEF,SCF	r2	
Green shrike babbler	*Pteruthius xanthochloris*	*occidentalis*	2135m	3355m	TM,SA	WTB,CTB,SAF	r3	
		xanthochloris	2135m	3355m	TM,SA	WTB,CTB,SAF	r3	
Black-eared shrike babbler	*Pteruthius melanotis*	*melanotis*	305m	2440m	ST,TM,TR	SEF,WTB	r3	
Hoary barwing	*Actinodura nipalensis*	–	1500m	3500m	ST,TM,SA	SEF,WTB,CTB	r2	*
Blue-winged minla	*Minla cyanouroptera*	*cyanouroptera*	1000m	2750m	ST,TM	SEF,WTB,CTB	r2	
Chestnut-tailed minla	*Minla strigula*	*similaensis*	1035m	3750m	TM,SA,ST	SEF,SCF,WTB,CTB	r1	
		strigula	1035m	3750m	TM,SA,ST	SEF,SCF,WTB,CTB	r1	
Red-tailed minla	*Minla ignotincta*	*ignotincta*	760m	3400m	TM,ST,TR,SA	SEF,WTB,CTB,SAF,GCL	r4	+
Golden-breasted fulvetta	*Alcippe chrysotis*	*chrysotis*	2435m	3050m	TM,SA	BGF	r2	V*
Rufous-winged fulvetta	*Alcippe castaneceps*	*castaneceps*	1525m	2745m	ST,TM	SEF,SCF,WTB,CTB	r1	
White-browned fulvetta	*Alcippe vinipectus*	*vinipectus*	1525m	2000m	TM,ST	DMS,BGF	r1	+
		chumbiensis	1525m	2000m	TM,ST	DMS,BGF	r1	
Nepal fulvetta	*Alcippe nipalensis*	*nipalensis*	245m	2285m	ST,TR,TM	SEF,TDR	r4	+
Black-capped sibia	*Heterophasia capistrata*	*anigriceps*	915m	3400m	TM,ST,SA	SEF,WTB,CTB,SAF	r1	+
		capistrata	915m	3400m	TM,ST,SA	SEF,WTB,CTB,SAF	r1	
		bayleyi	915m	3400m	TM,ST,SA	SEF,WTB,CTB,SAF	r1	
Whiskered yuhina	*Yuhina flavicollis*	*albicollis*	915m	2745m	ST,TM,TR	WTB,DMS	r1	+
Stripe-throated yuhina	*Yuhina gularis*	*gularis*	1700m	3700m	TM,SA,ST	WTB,CTB,SAF	r1	+
Rufous-vented yuhina	*Yuhina occipitalis*	*occipitalis*	1830m	3900m	TM,SA,ST	WTB,CTB,SAF	r1	+
White-bellied yuhina	*Yuhina zantholeuca*	*zantholeuca*	2285m	3600m	ST,TR	SEF,HSF,SCF	r3	
40.PARIDAE								
Black-browed tit	*Aegithalos iouschistos*	*iouschistos*	2590m	3700m	TM,SA	WTB,CTB,SAF	r4	+
White-throated tit	*Aegithalos niveogularis*	–	2560m	3965m	SA,TM	WTB,CTB,DMS	r5	

Black–throated tit	*Aegithalos concinnus*	*iredalei*	1065m	3000m	ST,TM	WTB,CTB,PRF	r1	
Yellow–browed tit	*Sylviparus modestus*	*modestus*	1500m	4265m	TM,ST,SA,AL	WTB,CTB,SAF	r1	
Grey–crested tit	*Parus dichrous*	*dichrous*	2000m	4270m	TM,SA,AL	WTB,CTB,SAF,PRF	r1	+
Rufous–naped black tit	*Parus rufonuchalis*	–	2700m	4000m	TM,SA,AL	WTB,CTB	rb3	
Rufous–vented ,, ,,	*Parus rubidiventris*	*rubidiventris*	2135m	4270m	SA,AL,TM	SAF,PRF	r1	+
Coal tit	*Parus ater*	*aemodius*	2287m	4270m	TM,SA,AL	WTB,CTB,SAF	r1	
Great tit	*Parus major*	*nipalensis*	120m	3050m	ST,TM,TR	CTF,CAF,DMS,WTB	r2	
Green–backed tit	*Parus monticolus*	*monticolus*	1370m	3660m	TM,ST,SA	WTB,CTB,SAF	r1	+
Black–lored tit	*Parus xanthogenys*	*xanthogenys*	305m	2925m	ST,TM,TR	DMS,CAF	r1	
Fire–capped tit	*Cephalopyrus flammiceps*	*flammiceps*	2100m	3000m	TM	WTB,CTB	r4	–
		olivaceus	2100m	3000m	TM	WTB,CTB	r4	
Black spotted yellow tit	*Parus spilonotus*	*spilonotus*	450m	2440m	ST,TM,TR	WTB,CTB	r1	
41.SITTIDAE								
Velvet–fronted nuthatch	*Sitta frontalis*	*frontalis*	75m	2015m	ST,TR	SCF,HSF,SEF	r2	
White–tailed nuthatch	*Sitta himalayensis*	*himalayensis*	915m	3050m	TM,ST,TR	WTB,CTB	r1	
Chestnut–bellied nuthatch	*Sitta castanea*	*almorae*	152m	1830m	ST,TR	SEF,HSF,SCF	r1	
		cinnamoventris	152m	1830m	ST,TR	SEF,HSF,SCF	r1	
Wallcreeper	*Tichodroma muraria*	*nepalensis*	245m	5730m	TM,SA,AL,ST,TR,A	GCL,GBA,GSL	w1	
42.CERTHIIDAE								
Brown throated treecreeper	*Certhia discolor*	*discolor*	305m	3050m	TM,ST	WTB,CTB	r4	
Bar–tailed treecreeper	*Certhia himalayana*	*himalayana*	75m	3660m	SA,TM,ST,TR	WTB,CTB	r2	
Rusty–flanked treecreeper	*Certhia nipalensis*	–	1830m	3660m	TM,ST,SA	WTB,CTB,SAF,PRF	r2	*
Common treecreeper	*Certhia familiaris*	*mandellii*	2000m	4100m	SA,TM,AL	WTB,CTB,SAF,PRF	r2	
43.NECTARINIIDAE								
Purple sunbird	*Nectarinia asiatica*	*asiatica*	365m	1830m	ST,TR	CTF,CAF,DMS	s3	
Mrs. Gould's sunbird	*Aethopyga gouldiae*	*gouldiae*	1830m	3655m	TM,SA,ST	WTB,CTB,SAF,PRF	r4	
Green–tailed sunbird	*Aethopyga nipalensis*	*horsfieldi*	305m	3505m	TM,ST,TR,SA	WTB,CTB,SAF,PRF	r1	
		nipalensis	305m	3505m	TM,ST,TR,SA	WTB,CTB,SAF,PRF	r1	
Black–throated sunbird	*Aethopyga saturata*	*saturata*	305m	2200m	ST,TM,TR	DMS,CAF	r3	
Crimson sunbird	*Aethopyga siparaja*	*seheriae*	244m	1800m	ST,TR	DMS,CTF,CAF	r3	
Fire–tailed sunbird	*Aethopyga ignicauda*	*ignicauda*	610m	4000m	SA,TM,ST	WTB,CTB,SAF	r2	+
44.DICAEIDAE								
Yellow–bellied flowerpecker	*Dicaeum melanoxanthum*	–	1050m	3000m	TM,ST	WTB,CTB,MPG	r4	R*
Fire breasted flowerpecker	*Dicaeum ignipectus*	*signipectus*	915m	2700m	TM,ST,TR	WTB,CTB,SEF	r1	
Oriental white–eye	*Zosterops palpebrosaus*	*palpebrsus*	120m	2440m	TR,ST,TR	DMS,WTB	r1	
Maroon oriole	*Oriolus traillii*	*traillii*	305m	2440m	ST,TR,TM	WTB,SEF,DMS	r2	
Eurasian golden oriole	*Oriolus oriolus*	*kundoo*	152m	1830m	ST,TR	DMS,CTF,CAF	s3	
45.LANIIDAE								

Brown shrike	*Lanius cristatus*	*cristatus*	120m	2700m	TR,ST,TM	DMS,CTF,CAF,MPG	wm4	
Isabelline shrike	*Lanius isabellinus*	*isabellinus*	120m	–	TR	DMS	v	
Bay–backed shrike	*Lanius vittatus*	*vittatus*	75m	3965m	TM,SA,ST,TR	DMS,CTF,CAF	v	
Long–tailed shrike	*Lanius schach*	*tricolor*	152m	3100m	TM,ST,TR	DMS,CAF	r1	
		erythronotus	152m	3100m	TM,ST,TR	DMS,CAF	r1	
Grey–backed shrike	*Lanius tephronotus*	–	274m	4575m	TM,SA,AL,ST,TR	DMS,CAF,CTF	r2	+
46.DICRURIDAE								
Black drongo	*Dicrurus macrocercus*	*albirictus*	274m	2000m	ST,TR	DMS,CAF,CTF,HV	r1	
Ashy drongo	*Dicrurus leucophaeus*	*longicaudatus*	120m	2745m	ST,TM,TR	SEF,TDR,PRF,HSF,SCF	r1	
Bronzed drongo	*Dicrurus aeneus*	*aeneus*	274m	2000m	ST,TR	SEF,TDR,HSF,SCF	s3	
Lesser racket–tailed drongo	*Dicrurus remifer*	*tectirostris*	274m	2440m	ST,TR	SEF,TDR,HSF,SCF	r3	
Spangled drongo	*Dicrurus hottentottus*	*hottentottus*	213m	4117m	ST,TR	TDR,SEF,HSF,SCF	r3	
47.ARTAMIDAE								
Ashy woodswallow	*Artamus fuscus*	–	75m	2560m	TR,ST	CTF,CAF,DMS	m5	
48.CORVIDAE								
Eurasian jay	*Garrulus glandarius*	*bispecularis*	915m	2745m	TM,ST	WTB,CTF,SEF	r4	
		interstinctus	915m	2745m	TM,ST	WTB,CTF,SEF	r4	
Lanceolated jay	*Garrulus lanceolatus*	–	915m	2500m	TM,ST	WTB,SEF	r4	
Yellow–billed blue magpie	*Urocissa flavirostris*	*cucullata*	1300m	3660m	TM,ST,SA	WTB,CTB,SAF,PRF	r1	+
		flavirostris	1300m	3660m	TM,ST,SA	WTB,CTB,SAF,PRF	r1	+
Red–billed blue magpie	*Urocissa erythrorhyncha*	*occipitalis*	274m	3050m	TM,ST,TR	WTB,CTB	r1	
Green magpie	*Cissa chinensis*	*chinensis*	152m	1830m	TR,ST	DMS,WPS	r2	
Grey treepie	*Dendrocitta formosae*	*himalayensis*	250m	2592m	ST,TM,TR	DMS,SEF,HSF,SCF	r1	
		occidentalis	250m	2592m	ST,TM,TR	DMS,SEF,HSF,SCF	r1	
Hume's ground jay	*Pseudopodoces humilis*	–	3965m	5335m	SA,AL,AR	DAS,DAG,GBA	r3	
Eurasian nutcracker	*Nucifraga caryocatactes*	*hemispila*	305m	3660m	TM,SA	PRF,SAF	r1	
Alpine chough	*Pyrrhocorax graculus*	*digitatus*	2350m	8235m	SA,AL,AR	DAF,DAS,GBA,CTF	r1	
Red–billed chough	*Pyrrhocorax pyrrhocorax*	*himalayanus*	2135m	7950m	SA,AL,AR,TM	DAG,DAS,GBA,CTF	r1	
House crow	*Corvus splendens*	*splendens*	120m	2100m	ST,TR	HV,CTF,CAF	r1	
Jungle crow	*Corvus macrorhynchos*	*intermedius*	120m	5790m	SA,AL,TM,ST,TR	HV,CTF,CAF	r1	
		tibetosinensis	120m	5790m	SA,AL,TM,ST,TR	HV,CTF,CAF	r1	
		culminatus	120m	5790m	SA,AL,TM,ST,TR	HV,CTF,CAF	r1	
		levaillantii	120m	5790m	SA,AL,TM,ST,TR	HV,CTF,CAF	r1	
Common raven	*Corvus corax*	*tibetanus*	2500m	8235m	SA,AL	GBA,DAG,DAS	r3	
49.STURNIDAE								
Common starling	*S tarnus vulgaris*	*humii*	244m	2900m	ST,TR,TM	CTF,CAF,TDR	wm5	
		porphyronotus	244m	2900m	ST,TR,TM	CTF,CAF,TDR	wm5	
		poltaratsky	244m	2900m	ST,TR,TM	CTF,CAF,TDR	wm5	

Common mynah	*Acridotheres tristis*	*tristis*	120m	3050m	ST,TR,TM	HV,CTF,CAF	r1	
Jungle mynah	*Acridotheres fuscus*	*fusca*	274m	2200m	ST,TR	HV,CTF,CAF,SEF	r1	
50.PLOCEIDAE								
House sparrow	*Passer domesticus*	*indicus*	120m	2135m	ST,TR	HV,CTF,CAF	r1	
		parkini	120m	2135m	ST,TR	HV,CTF,CAF	r1	
Cinnamon sparrow	*Passer rutilans*	–	75m	4270m	ST,TM,SA	DMS,CTF,CAF	r2	
Eurasian tree sparrow	*Passer montanus*	*malaccensis*	610m	4270m	ST,TM,SA,TR	HV,CTF,CAF	r1	
		tibetanus	610m	4270m	ST,TM,SA,TR	HV,CTF,CAF	r1	
Chestnut–shouldered sparrow	*Petronia xanthocollis*	*xanthocollis*	120m	1525m	TR,ST	DMS,CTF,CAF	r3	
Red–necked snowfinch	*Montifringilla ruficollis*	–	3340m	4815m	SA,AL,AR	GBA,DAG,DAS	v	
Tibetan snowfinch	*Monifringilla adamsi*	*adamsi*	3600m	5185m	SA,AL,AR	GBA,DAS,DAG,CTF,CAF	r1	
Baya weaver	*Ploceus philippinus*	*philippinus*	120m	1370m	ST,TR	CTF,CAF,MSG	s1	
		burmanicus	120m	1370m	ST,TR	CTF,CAF,MSG	s1	
Striated munia	*Lonchura striata*	*audicaudata*	305m	2135m	ST,TR	DMS,CTF,CAF	r3	
Scaly–breasted munia	*Lonchura punctulata*	*punctulata*	244m	2680m	ST,TR,TM	DMS,CTF,CAF,MAG	r4	
Chestnut munia	*Lonchura malacca*	*rubronige*	120m	1372m	TR,ST	CTF,CAF,MAG	r5	
		atricapilla	120m	1372m	TR,ST	CTF,CAF,MAG	r5	
51.FRINGILLIDAE								
Common chaffinch	*Fringilla coelebs*	*coelebs*	1555m	3050m	TM,ST	WTB,CTB,PRF,CTF	w3	
Brambling	*Fringilla montifringilla*		1525m	3050m	TM,ST	WTB,CTB,PRF,CTF	w4	
Red–fronted serin	*Serinus pusillus*	–	2100m	4575m	SA,AL,TM	GBA,DAG,DAS,DMS	r2	
Tibetan serin	*Serinus thibetanus*	–	2100m	4575m	SA,AL,TM	GBA,DAG,DAS,DMS	w4	
Red–browed finch	*Callacanthis burtoni*	–	2287m	3355m	TM,SA	WTB,CTB,SAF	rw4	+
Yellow–breasted greenfinch	*Carduelis spinoides*	*spinoides*	274m	4400m	TM,SA,ST,TR	WTB,CTB,DMS,CTF,CAF	r1	
Eurasian goldfinch	*Carduelis carduelis*	*caniceps*	75m	4200m	TM,SA,ST,TR	CTF,CAF,SAF,DMS	r4	
Twite	*Carduelis flavirostris*	–	3965m	4575m	SA,AL,AR	GBA,DAG,MAG	r4	
Common Crossbill	*Loxia curvirostra*	*himalayensis*	2530m	3660m	SA,TM	SAF,CTB	3	
Plain mountain finch	*Leucosticte nemoricola*	*nemoricola*	1650m	5200m	AL,SA,TM,AR	GCL,GBA,CTF,CAF	r1	
Brandt's mountain finch	*Leucosticte brandti*	*haematopygia*	2350m	6000m	AL,AR,SA,TM	GCL,GBA,DAG	r3	
Mongolian finch	*Bucanetes mongolicus*	–	–	3507m	SA,AL	GBA,DAS,DAG	v	
Crimson rosefinch	*Carpodacus rubescens*	–	2440m	3050m	TM,SA	CTB,SAF,WTB	w5	*
Dark–breasted rosefinch	*Carpodacus nipalensis*	*nipalensis*	1372m	4270m	SA,AL,TM,ST	SAF,DMS,CTF,CAF	r2	+
Common rosefinch	*Carpodacus erythrinus*	*roseatus*	275m	4000m	SA,TM,ST,TR	SAF,PRF,DMS,CTF,CAF	r2	
		erythrinus	275m	4000m	SA,TM,ST,TR	SAF,PRF,DMS,CTF,CAF	r2	
Beautiful rosefinch	*Carpodacus pulcherrimus*	*pulcherrimus*	2100m	4650m	SA,AL,AR,TM	DAS,DAG,MAS,MAG,GCL	r1	
Pink–browed rosefinch	*Carpodacus rhodochrous*	–	915m	3965m	SA,TM,ST	SAF,CTB,WTB	r2	+
Vinaceous rosefinch	*Carpodacus vinaceus*	*vinaceus*	915m	3200m	SA,TM,ST	BGF,DMS	r5	*
Great rosefinch	*Carpodacus rhodopeplus*	*rhodopeplus*	2000m	4000m	TM,SA	SAF,MAS,DMS,GCL	r2	*
White–browed rosefinch	*Carpodacus thura*	*thura*	1830m	4200m	TM,SA,AL	SAF,MAS,MAG,DMS	r2	+
Crimson–eared rosefinch	*Carpodacus rubicilloides*	*lucifer*	2440m	4575m	SA,TM,AL	GBA,DAS,DAG	w2	+
Great rosefinch	*Carpodacus rubicilla*	*severtzovi*	2650m	5000m	SA,AL,TM	GBA,DAS,DAG	r3	
Red–breasted rosefinch	*Carpodacus puniceus*	*puniceus*	2745m	5100m	SA,AL,AR,TM	GBA,DAS,DAG	rw4	
Edward's rosefinch	*Carpodacus edwardsii*	*rubicunda*	1067m	3635m	TM,SA,ST	WTB,CTB,DMS	–	

Crimson–browed finch	*Propyrrhula subhimachala*	–	2590m	4000m	SA,AL,TM	SAF,MAS	rw3	*
Scarlet finch	*Haematospiza sipahi*	–	1220m	3100m	TM,ST	WTB,CTB,WPS	r4	V*
Gold–naped finch	*Pyrrhoplectes epauletta*	–	1525m	3355m	TM,SA,ST	WTB,CTB,SAF	r5	+
Brown bullfinch	*Pyrrhula nipalensis*	*nipalensis*	1600m	3200m	TM,SA,ST	WTB,CTB,SAF,SEF	r4	
Red–headed bullfinch	*Pyrrhula erythrocephala*	–	1830m	4000m	SA,TM*	WTB,CTB	r2	+
Collared grosbeak	*Mycerobas affinis*	–	2440m	3900m	SA,TM	WTB,CTB,SAF,PRF	r2	+
Spot–winged grosbeak	*Mycerobas melanozanthos*	–	1220m	3355m	SA,TM,ST	WTB,CTB,SEF	r5	*
White–winged grosbeak	*Mycerobas carnipes*	*carnipes*	2135m	4200m	SA,AL,TM	SAF,MAS,DAS	r2	
52.EMBERIZIDAE								
Pine bunting	*Emberiza leucocephalos*	*leucocephalus*	915m	3050m	TM,ST	DMS,CTF,CAF	w2	
Yellowhammer	*Emberiza citrinella*	*erythrogenys*	1100m	2745m	TM,ST	CTF,CAF	w5	
Rock bunting	*Emberiza cia*	*stracheyi*	1800m	4600m	SA,AL,TM	GBA,DAG	r1	
		flemingorum	1800m	4600m	SA,AL,TM	GBA,DAG	r1	
Chestnut–eared bunting	*Emberiza fucata*	*arcuta*	75m	2135m	ST,TR	GPS,DMS	5	
		fucata	75m	2135m	ST,TR	GPS,DMS	5	
Rustic bunting	*Emberiza rustica*	*rustica*	245m	2810m	TM,ST,TR	–	v	
Little bunting	*Emberiza pusilla*	–	75m	3050m	TM,ST,TR	CTF,MAG,DMS	w2	
Crested bunting	*Melophus lathami*	–	120m	1460m	TR,ST	CTF,CAF,DMS	r2	

CODES FOR BIRD CHECKLIST:

Eco-zone:

TR	Tropical region (upto 1000 m)
ST	Subtropical region (1000 m to 2000 m)
TM	Temperate region (2000 m to 3000 m)
SA	Sub-alpine region (3000 m to 4000 m)
AL	Alpine region (4000 m to 5000 m)
AR	Arctic or Nival zone (>5000 m)

Habitat based on Vegetation:

Forest type:

HSF	Hill sal forest
TDR	Tropical Deciduous forest
SCF	Schima-castanopsis forest
SEF	Subtropical semi-evergreen forests
PRF	Conifer/Pine forests
WTB	Warm temperate mixed broadleaved forests
CTB	Cool temperate mixed broad leaved forests
SAF	Mixed subalpine forests
BGF	Bamboo grooves
DMS	Disturbed shrubland/opne forest/secondary growth

Maturity class:

MF	Mature forests
IF	Immature forests
RF	Regenerating forests

Shrubland:

MAS Moist alpine scrub
DAS Dry alpine scrub

Grassland:

MAG Moist alpine grassland
DAG Dry alpine grassland
MPG Meadow patches in forests
MSG Meadows near settlements

Other habitat types:

Cultivation:

CTF Terraced, paddy fields, gardens and fields
CAF Abandoned fields, forest edges, thick disturbed scrub
CSB Abandoned/active Slash and burn areas

Wetland types:

WPS Pond/Stream with emergent vegetation
WML Marshlands, reeds
WAP Alpine pond without vegetation

Geo-type:

GBA Barren (<10% vegetation)
GCL Cliffs, steep gorges, ravines, ridges, landslides, scree, talus
GBC Burrows, Caves
GAL Alluvial fans, river mudbanks, riverbanks
GSL Crags, snags, logs

Human settlements:

HV Villages and towns
TR Temporary residential areas
AA Abandoned residential areas

Other keys to Checklist:

1 Common	b Proved breeding
2 Fairly common	m Passage migrant
3 Occasional	r resident
4 Uncommon	s Summer visitor
5 Rare	w Winter visitor
	v Vagrant
	? Status or abundance uncertain

+ Species for which Nepal may hold internationally significant breeding populations
* Species for which Nepal may hold internationally significant breeding and for which the country may be especially important.

E Endangered
V Volunerable
R Rare
I Indeterminate

Details of Mammals found in ACAP

MAMMALS:

Mammals in the area is represented by 23 families. Within theses families, a number of 101 species are suspected to occur. About 64 animals were recorded or reported by the team. The species reported or suspected from within the Conservation area limits show a substantial diversity containing about 66% of the a total of 175 species of animals reported by Shah (1991) for Nepal.

Substantial information regarding large mammals is available, however, very little is done on small mammals. Studies have been conducted on the snow leopard, a rare and elusive cat in the Manang valley (Oli 1990). A census on blue sheep has also been done by several scientists (Sherpa and Oli 1988). Depredation studies associated with wild animals have also been conducted. Bats were found least studied and the expected number has been totally based on reviews of previous authors. Description of mammals have been adopted primarily from Prater (1990), Jackson (1990), MacDonald (1983), Majupuria (1982). Characters include also descriptions from interviews where certain.

FAMILY: CERCOPITHECIDAE

Macaca mulatta (Zimmermann)

Common name: Rhesus macaque
Local name: Rate' or hajare' bandar
Distinguishing character: Hairs on crown radiate backwards from forehead without neat centre parting. Orange red fur on its loins and red rump.
Distribution: The himalayas extending eastward into Burma.
Records: Recorded throughout southern slopes of Annapurna himal range, especially from lower belts of the region.
Habitat: Well adapted to humans and settlements, rarely penetrating into depth of jungle. Frequents cultivation and gardens. Reported as high as 2440 m (Prater 1990).

Macaca assamensis McClelland

Common name: Assamese macaque
Local name: Kalo bandar
Distinguishing character: Distinguished from rhesus by darker tinge of coat and absence of orange red hue on its loins and rump. Slightly larger and bigger canine teeth.
Distribution: Nepal himalayas and hill ranges of Assam.
Records: Reported from Bhujung, Siklis, and Ghandruk Shrestha et.al. (1992) reported from Pakhurikot and Nagidhar areas.
Habitat: Partial to heavy forests sheltering among cliffs and ravines. Frequent visitors of human settlements

raiding fields and gardens. Elevational range reported from 610 m. (Prater 1990) to 2745 m.(Uprety and Majpuria 1982).

FAMILY: COLOBIDAE

Presbytis entellus (Dufresne')

Common name: Common Hanuman langur
Local name: Dhendooa
Distinguishing character: Black faced monkey with longer limbs and long tailed. Brownish grey in the himalayas.
Distribution: Whole of the Indian peninsula.
Records: Recorded above Chame', a troop of 12 individuals, two troops reported from Tadapani area (Gurung 1993). Also reported from Luwang Sikis and Bhujung areas.
Habitat: More arboreal than macaques and leaf eating colobines. Haunts mature forests among cliffs and ravines. Reported as high as 4000 m. (Jackson 1990) however usually frequents upto 3660 m. (Prater 1990).

FAMILY: MANIDAE

Manis crassicaudata Gray

Common name: Pangolin or scaly ant eater
Local name: -
Distinguishing character: Armor of protecting scales and covered with large overlapping scales. Curls up in ball when alarmed.
Distribution: Plains and lower slopes of hills of India, south of the himalayas and Ceylon. Range extends till Burma and south China.
Records: Burrow recorded in Bhujung area(BCDP).
Habitat: Burrows itself in deep holes and nocturnal in habit. Partial to ants and termite mounds favoring eggs and young. Favors Pinus roxburghii forests (Jackson 1990) and probably ranges upto 1500 m.

FAMILY: FELIDAE

Panthera uncia (Schreber)

Common name: Snow leopard
Local name: Hiun Chituwa (Nepali); Pangje (Manangi); Iko (Mustangi)
Distinguishing character: Short muzzle, high forehead and vertical chin. Soft grey coat color paling to pure white sometimes tinged with buffs. Larger rosettes on body.

Distribution: From Russia through Himalayas, Tibet, Central Asia, and the Altais.
Records: Recorded scrape and scat from Upper Mustang, Manang valley and locally reported from Annapurna and Machhapuchere Base Camps, however habitat characteristics unsuitable for these felids.
Habitat: Partial to dry alpine steppe habitat. Prefers broken areas with cliffs, rocks, talus, scree and morainal habitats for cover and usually travels on ridgelines, base of cliffs, river buffs, and human trails. Reported elevations include 3500 m. to 5600 m.(Jackson 1990).

Felis lynx isabelline Linnaeus

Common name: Lynx
Local name: Sau (Mustangi)
Distinguishing character: Long erect tufts of hair on the tips of ears. Short tail and distinct buff or fringe of pendant hairs framing its face.
Distribution: The Tibetan lynx occurs in the highlands of Tibet and adjacent areas being reported from northern region of Pakistan, Ladhak, Dolpo and Mustang of Nepal, Tibet, China and Mongolia (Jackson 1990).
Records: Stray cub raised at Regional headquarters in Lo-Manthang and identified by BCDP.
Habitat: Prefers sub-alpine and alpine dry steppe zones in sparsely vegetated areas. Avoids steep terrain, and partial to dense riverain thickets of willow, tamarisk and other shrubs (Jackson 1990). Elevational range from 2745 m.(Präter 1990) to 4500 m. (Jackson 1990) is preferred.

Panthera pardus (Linnaeus)

Common name: Common forest leopard
Local name: Chituwa (Nepali); Chito or Chen (Gurung)
Distinguishing character: Sleek short haired animal with a fulvous or bright fulvous coat marked with small close set black rosettes.
Distribution: Throughout Indian subcontinent and into Burma and Ceylon.
Records: Recorded from throughout the southern slopes of Annapurna himal. Also reported by Shrestha et.al.(1992), Gurung (1993). Pelt observed in Braga and reports from Jomsom area too.
Habitat: Thrives in almost all types of habitats, hence declared as generalists. Partial to ravines, cliffs and nigalo thickets in the mountains. Often a common depredator of livestock and sometimes injurious to humans. Ranges from the Tropics to 4000 m.(1990).

Felis temmincki Vigors and Horsfield

Common name: Golden cat
Local name: Ban biralo
Distinguishing character: Sturdily built cat with golden brown to dark brown bright red or grey coat, sometimes

black. Innerside of the eye, a whitish stripe which bifurcates above and is continuous with a more or less distinct grayish stripe passing on to the crown.
Distribution: Nepal, Sikkim, Assam extending into Burma, South China and South eastern Asia, generally as far as Sumatra.
Records: Locally reported from southern slopes of Annapurna range (BCDP).
Habitat: Inhabits dry, deciduous forests and more open habitats, preferably associated to dense forests or tropical rain forests, avoiding pine forests as far as practical.

Felis marmorata Martin

Common name: Marbled cat
Local name: Ban biralo
Distinguishing character: Distinguished through structural peculiarities of the skull which is short and broad and has wider cheek arches. Canine teeth more robust and chin more vertical. Coat pattern consists of stripes on the crown, neck and back of large and small blotches called 'marbling' and of spots on the underside of the limbs and on the tail. Himalayan cats limited to a few wavy grayish buffs.
Distribution: Nepal, Sikkim, Assam and extends into Burma and the Malaya countries. Reported from Lwang identified by its ashy grey coat marbled with buffs.
Records: Locally reported from southern slopes of ACAP, (BCDP).
Habitat: Inhabits dense forests and is thought to be quite arboreal (Prater 1990, Jackson 1990). Probably ranges as high as 2000 m.

Felis bengalensis Kerr

Common name: Leopard cat
Local name: Ban biralo
Distinguishing character: Size of domestic cat with rather longer legs. Body color yellowish above, white below, ornamented throughout with black or brownish spots. Four more or less distinct bands running from the crown over the neck which break up into short bars and elongate spots on the shoulders. Pair of horizontal cheek stripes, the lower joining a black bar across the throat and the usual two black bars on the inside of the fore arm. Spots on the tail form cross bands towards its end. Sometimes confused with cubs of clouded leopard.
Distribution: From Kashmir along the Himalayas, through Nepal into south eastern Asia, and north to Manchuria and Korea.
Records: Recorded three dead cubs at Lamkhet on way to Siklis which borders the conservation area(BCDP).
Habitat: Associated with tropical, subtropical and lower temperate zones with relatively dense and moist forests (Jackson 1990). Cubs recorded were extracted from a rock hole on grassy slope sparsely vegetated with Schima-Castanopsis forests and predominantly dominated by broken terrain and ***Arundinella nepalensis*** at an altitude of 1200 m. Nocturnal in habit preferring to hole in tree hollows (Prater 1990). Reported as high as 3000 m. in Sikkim (Jackson 1990).

Felis chaus Guldenstaedt

Common name: Jungle cat
Local name: Ban biralo
Distinguishing character: Long legs and comparatively shorter tail. Coat color varies from sandy grey to yellowish grey. Tail ringed with black towards the end and has a black tip. Ears are reddish, ending in a small pencil of black hairs. Underside of the body is paler with vestiges of stripes on the underside and flanks.
Distribution: North Africa through south-western Asia to India, Ceylon, Burma and Indo-China.
Records: Recorded along the southern slopes of Annapurna range. Widely distributed in Nepal (Jackson 1990).
Habitat: Inhabits variety of habitats including woodland, scrub jungle, dense shrubland, grassland, marshland and agricultural fields (Jackson 1990). Prefers dry and more open parts of the country keeping more to grassland, scrub jungle, reedy banks of rivers and marshes. Frequent visitor in towns and villages, finding refuge in old buildings and among rocks (Prater 1990). Suspected to range as high as 2700 m.

Neofilis nebulosa (Griffith)

Common name: Clouded leopard
Local name: Dhuanse chituwa
Distinguishing character: Relatively enormous upper canine teeth, long body and tail, short limbs and rounded black ears relieved by a grayish patch in the center. Clouded pattern of flanks by darker blotches more or less lined with black and divided by paler interspace. Limbs and underparts marked with large spots and the tail ornamented with rings frequently imperfect on the sides.
Distribution: Ranges from central Nepal eastward through Sikkim, Bhutan, India into Burma, China and the Indo-Malayan peninsula.
Records: Locally reported from the southern parts of ACAP. Shrestha et.al. (1992) reported from Simle and Parkyun areas of Lamjung. Stuffed specimen at Institute Of Forestry recovered within the vicinity.
Habitat: Reported to inhabit dense evergreen subtropical and tropical forests and preferably in Schima-Castanopsis forests in the east (Jackson 1990). Largely arboreal rearing young in hollows in trees (Prater 1990). Locally reported to range as high as 1800 m. in the Conservation area.

FAMILY: VIVERRIDAE

Viverra zibetha Linnaeus

Common name: Large Indian Civet
Local name: -
Distinguishing character: Long head, long compressed body and short stumpy legs. Erectile crest of long deep black hair running down the center of the back. Generally dark hoary grey, usually washed with yellowish or brown color.

Distribution: Nepal, Sikkim, Bhutan, Upper Bengal, Assam, stretching eastward into Burma, Southern China, Siam and the Malaya peninsula.
Records: Locally reported along the southern slopes of the Annapurna himal range (BCDP).
Habitat: Shelters in woods, under bushes or in heavy scrub jungle. Owing to its omnivorous habit, frequents vegetable gardens and orchards. Based on local information, presumably ranges upto 2000m.

Viverricula indica (Desmarest)

Common name: Small indian civet
Local name: -
Distinguishing character: Tawny grey or grayish brown animal, lined and streaked on back and croup, spotted more or less along flanks. Peculiar cross bars on the neck which may sometimes be absent. Dorsal crest absent.
Distribution: From the Himalayan foothills of Nepal through Indian peninsula to Ceylon and eastward into Burma, Southern China and Malaya countries.
Records: Locally reported from the southern slopes of the Annapurna himal range especially from lower elevations(BCDP).
Habitat: Avoids heavy forests and prefers long grass or scrub, sheltering in holes or under rocks and under brushes. Not uncommon visitor in villages, towns and orchards. Probably ranges as high as 1500m.

Paguma larvata (Hamilton-Smith)

Common name: Himalayan palm civet
Local name: -
Distinguishing character: Distinguished by its white whiskers and by the absence of any trace of white spots or stripes on its body. Coat color ranges from uniform grey to tawny and white underparts.
Distribution: Kashmir through the Himalayas to Burma, the Indo-chinese and Malaya countries.
Records: Locally reported along the southern belts of Annapurna himal range. Stuffed animal in lab(BCDP).
Habitat: Inhabits forests sheltering in holes in trees and often breeding there. More vegetarian than other civets. Locally reported from about 2000 m, and on was observed at about 2200 m.

Paradoxurus hermaphroditus (Pallas)

Common name: Common palm civet or Toddy cat
Local name: -
Distinguishing character: Black or blackish brown with long coarse hair. Whitish buff or rich yellow underwool in winter when shed generally turns to a pattern of longitudinal stripes on the back and spots on the flanks, shoulders and thighs with variable fascial marking.
Distribution: Kashmir through Nepal himalayas, Assam and extends to the Indian peninsula excepting desert biotopes reaching to Burma, Indo Chinese and Malaya countries in east.

Records: locally reported throughout the southern flanks of Annapurna himal range(BCDP).
Habitat: Common in forests and well wooded areas sheltering in trees, often lying curled up by day among branches or in holes in trees. Commonly associated with humans visiting residential areas, orchards of mangos and plum trees. Reported upto about 1500 m.

Prionodon pardicolor Hodgson

Common name: Spotted linsang or Tiger civet
Local name: -
Distinguishing character: Pointed muzzle, elongate body and short limbs with golden color and bold pattern of large black spots.
Distribution: Nepal, Sikkim,Assam extending well into southern China and northern Burma.
Records: Locally reported throughout southern slopes of Annapurna himal range(BCDP).
Habitat: Inhabits forests of hills in tropical and sub-tropical zones. Reported elevational range includes 150m to 2000 m.(Jackson 1990).

FAMILY: HERPESTIDAE

Herpestes nyula (Geoffroy)

Common name: Common mongoose
Local name: nyauri moosa
Distinguishing character: Tawny yellowish-grey mongoose without any stripes. Grizzled with 'pepper-salt' tinge. Long tail, tipped with white or yellowish red, never black.
Distribution: Whole of Indian peninsula along himalayan foothills extending westward to Persia and Mesopotamia.
Records: Recorded throughout mesic areas of the Conservation area(BCDP).
Habitat: Open land of scrub jungle and cultivation. Prefers hedgegrows and thicket, among groves of trees and cultivated fields. Shelters under rocks or bushes, in hollows at base of trees, or burrows in the ground. Locally reported upto 2000 m.

Herpestes auropunctatus (Hodgson)

Common name: Small indian mongoose
Local name: Nyaurimoosa
Distinguishing character: Smaller in size, short tail (shorter than the body) and olive brown, gold flecked or darker brown speckled minutely with gold in general.
Distribution: Northern India from Kashmir through Nepal to Bengal, Assam, Burma and the Malaya countries

penetrating westward into Afghanistan, Baluchistan, Persia and Mesopotamia.
Records: Locally reported in the lower hills of southern slopes of Annapurna range(BCDP).
Habitat: Prefers hedgegrows, thickets leaving a worn out trail along its travel lane and shelters in holes or burrows built by itself (Prater 1990). Presumably found upto 1500 m.

Herpestes urva (Hodgson)

Common name: Crabeating mongoose
Local name: -
Distinguishing character: Distinct white stripe running from the angle of the mouth along each side of the neck. Coarse fur and somewhat ragged coat in a dusky iron grey tone. Under fur is dark brown.
Distribution: Nepal, Assam, Burma, South China and Northern Malaya countries.
Records: Locally described feature resembles this animal from near Chame (BCDP).
Habitat: More aquatic preferring freshwater streams where available. Shelters among holes in ground near water sources. Presumably ranges upto about 2500 m.

FAMILY: CANIDAE

Canis lupus chanco Linnaeus

Common name: Tibetan or grey wolf
Local name: Bowanso (Nepali); Chyangu (Mustangi, Manangi)
Distinguishing character: The large size skull and teeth distinguishes from rest of the family. The himalayan form are sometimes black or blackish.
Distribution: Europe, North America, northern, central, and south-western Asia. Within Nepal, expected to range throughout the Trans-Himalayas probably as far as the Everest region.
Records: Locally reported from the trans himalayan zones of Mustang and Manang regions (BCDP).
Habitat: Inhabits upper subalpine and alpine zones preferring alpine grassland, open Juniper-Rhododendron scrub and barren areas in open rolling country, generally avoiding gorges, ravines (Jackson 1990). Presumably occur above 3660 m.

Canis aureus Linnaeus

Common name: Jackal
Local name: Syal (Nepali); Syaalaha(Gurung)
Distinguishing character: Lacks arching brows and elevated forehead. More buff on their coat and a deeper tan on ears and legs.

Distribution: South eastern Europe, South-western Asia, throughout India and Ceylon, extending some way into Burma.
Records: Recorded scats at 2700 m. and howling reported as high as 3660 m. in Manang valley.
Habitat: Highly adaptable species sheltering in holes in grounds, often preferring alluvial fans and among ruins or in dense grass and scrub. Often visits towns, settlements and cultivation. Reported as high as 3660m.

Vulpes vulpes montana (Linnaeus)

Common name: Red fox
Local name: Fyauro (Nepali); Tengu (Manangi)
Distinguishing character: Red is the dominant color of coat with black to its upper half of ear. White tip on its tail.
Distribution: Himalayan race extends from Tibet, Ladhak, Kashmir, Nepal, and as far east as Sikkim.
Records: Recorded scats in the Trans himalayan valleys of Manang and Mustang (BCDP).
Habitat: Thorn bushes and willows fringing stream edges and common in brushwood and cultivated land of subalpine zones and alpine zones. Usually sheltering in ground burrows or under rocks. Probably ranges above 3000 m. in the himalayas.

Vulpes bengalensis (Shaw)

Common name: Indian fox
Local name: Fyauro
Distinguishing character: General color grey, pure grey in winter with distinct black tip. Smaller build than red fox.
Distribution: From the foothills of Nepal himalayas throughout the peninsula.
Records: Locally reported at lower reaches of the Annapurna himal (BCDP).
Habitat: Prefers open country, wasteland and cultivation, rocky hills and broken country sheltering in burrows(Prater 1990). Probably ranges upto 2700 m in the Conservation area.

Cuon alpinus (Pallas)

Common name: Wild dog or dhole
Local name: Ban kukur
Distinguishing character: Pale to deeper red coat with relatively shorter leg and muzzle. Six molar teeth and 12 to 14 teats against ten in true dogs.
Distribution: Distributed throughout central and eastern Asia from Xinjiang Autonomous region of China into former USSR and into Indian subcontinent, Malayan peninsula, Java, Borneo and Sumatra (Cohen 1978).
Records: Locally reported through out the Conservation area usually misinterpreting with wolves (BCDP).
Habitat: Occupies a variety of habitats from mountainous temperate, subalpine and alpine grassland, shrubland

and forests in the himalayas. Local distaste towards this animal due to its notorious habit of massacring livestock. Reported as high as 4000 m. (Jackson).

FAMILY: URSIDAE

Selenarctos thibetanus (Cuvier)

Common name: Himalayan Black Bear
Local name: Kalo bhalu
Distinguishing character: Typically black, muzzle tan or brown, chin white or buff and distinct V-shaped breast mark which is usually white, yellow or buff. Body is more compact.
Distribution: Through Nepal, Sikkim, Bhutan and into China, southeast Asia and Amur regions of former USSR.
Records: Recorded throughout southern slopes of Annapurna and along the Marsyangdi and KaliGandaki gorge(BCDP). Also reports of similar smaller species reported from Bhujung area, which probably could be sub adult of the species.
Habitat: Steep forested hills sheltering among rock caves, tree hollows. Frequently raids crops and rarely attacks sheep and goats. Rarely visits above 3660 m.

Ursus arctos
pruinosus Blyth, *isabellinus* Horsfield

Common name: Brown bear
Local name: Rato bhalu (Nepali), Mheetey (Mustangi)
Distinguishing character: Heavier in build and brown coat varying in color by season sometimes growing dark brown. Observed bear in Damodar Kunda was black with white underpart and white around its neck and from below shoulder joint along the croup.
Distribution: Through Afghanistan, Pakistan, India, Nepal, Tibet, China and Bhutan. It has ben argued that ***U.a. isabellinus*** ranges from the himalayas to the Tien Shen mountains along the former USSR-Xinjiang border, while the race ***U.a. pruinosus*** frequents south and eastern tibet as well as adjacent parts of Tibet. The species observed probably is related to this one, however it is still uncertain.
Records: Brown bear of uncertain sub species observed at Damodar Kunda(BCDP). Shrestha et. al.(1992) reported of one brown bear being killed in Singdi forests in Lamjung about 10 years ago.
Habitat: Generally restricted above treeline in barren, grassy and rocky uplands. However the himalayan form (***U.a.isabellinus***) probably ventures into subalpine and temperate forests. Elevational range probably includes above 3660 m.

FAMILY: PROCYONIDAE

Ailurus fulgens Cuvier

Common name: Red panda or cat bear.
Local name: Habre'
Distinguishing character: Rounded head with large erect pointed ears, stumpy muzzle and short hairy soled legs. Generally chestnut color and ringed tail.
Distribution: Along the himalayas from Nepal, Sikkim to upper Burma and southern China.
Records: Inskipp(1989), reports of sightings of this animal in the Ghorepani and Modi khola areas. A family of this animal was reported to have been sighted near Dhampus in Alnus forest which is very unlikely (Meirow pers. comm.).
Habitat: Commonly inhabits forests above 3000 m. in moist temperate forests feeding on bamboo shoots, leaves and fruits. Spends daylight hours sleeping on upper branches of trees.

FAMILY: MUSTELIDAE

Lutra lutra (Linnaeus)

Common name: Common otter
Local name: Ote
Distinguishing character: Fuller rougher coat with grizzled dorsal surface. Hairs of the muzzle terminate above the naked nose in an angular or zigzag line.
Distribution: Along the himalayas of Nepal to Assam.
Records: suspected to occur along southern borders of ACAP in riverain habitats of sub tropical and temperate regions. Definitely reported from Beganas and Rupa tal or lakes north of Pokhara near ACAP's southern borders.
Habitat: Resident of cold hills and mountain streams and lakes. Shelters among rocks and boulders, in hollows beneath the roots of trees growing by water edges. Usually lies up in reed beds, fern beds and bushes. Reported as high as 3660 m (Prater 1990).

Lutra perspicillata Geoffroy

Common name: Smooth Indian otter
Local name: Ote
Distinguishing character: Distinguished by its smooth sleek coat and dorsal fur which is not grizzled. Color, blackish to rufous chocolate-brown, sometimes sandy or tawny brown. Hairs of muzzle terminate in a straight line above the naked part of the nose.

Distribution: From the Nepal himalayas south to Sind. Eastward range extends to Burma, Indo China and Malaya.
Records: Suspected to occur along bordering subtropical riverain habitats of ACAP and recorded in Begnas and Rupa lakes(Acharya and Gurung 1991).
Habitat: Found along margins of lakes, streams large tanks and canal (Prater 1990). Shelters in burrows in hillsides and show similar adaptations of forest carnivores often hunting in forests. Probably ranges to 1500 m.

Martes fiona (Erxleben)

Common name: Beech or stone marten
Local name: -
Distinguishing character: Moderately long legs and tail about half as long as its head and body. The color of its upper side is almost uniform drab or slaty brown, dark or light. In the himalayan form, the white throat is generally broken up by brown patches or even completely obliterated.
Distribution: Kasmir through Nepal himalayas to as far east as Sikkim.
Records: Locally reported throughout southern slopes of Annapurna range and valleys of Kali Gandaki and Marsyangdi.
Habitat: In forests and on barren heights above treeline. Shelters in hollows in trees, under logs, among rocks and rarely found below 1525 m (prater 1990).

Martes flavigula (Boddaert)

Common name: Yellow throated marten
Local name: Malshapro
Distinguishing character: Longer tail measuring about three fourth the length of head and body. The yellow of the throat is emphasized by dark bands running down the nape.
Distribution: The Nepal himalayas, Assam, Burma, China and Malaya countries.
Records: Recorded throughout southern slopes of Annapurna himal and along the Kaligandaki and Marsyangdi valley.
Habitat: Limited to forests, rarely above treeline. Probably shelters in tree hollows, on branches and among rock boulders. Himalayan race is found between 1220 m. to 2745 m. (Prater 1990).

Mustela erminae Linnaeus

Common name: Ermine or stoat
Local name: -
Distinguishing character: The fore paws and hind paws are conspicuously white contrasting with legs. Color varies from foxy red to dark chocolate.
Distribution: Kashmir and the Nepal himalayas extending east to Burma.

Records: Recorded on southern slopes of Annapurna range(BCDP).
Habitat: Readily adaptable to varied habitat conditions. Generally shelters among rocks, hollow stumps or logs or in burrows. Presumably these do not venture above 3960 m. in the mountains.

Mustela sibirica Pallas

Sub spp. *subhemachalana* Hodgson; *canigula* Hodgson; ***hodgsoni*** Gray

Common name: Himalayan weasel
Local name: -
Distinguishing character: Color varies from bright foxy red to dark chocolate and with slightly paler underparts. Color of muzzle dark or white on different forms.
Distribution: Nepal himalayas, central and eastern Asia, upper Burma and Java.
Records: Locally reported on the southern slopes of the Annapurna range.
Habitat: Shelters in dens structured of any convenient cover, among rocks, under roots of trees, in hollow stumps or logs or in burrows of other animals. It could shelter in holes in walls, in roofs or under floors of houses while a guest in human settlements. Reported elevational range includes 1525 m. to 4880 m. (Prater 1990).

Mustela kathia Hodgson

Common name: Yellow bellied himalayan weasel
Local name: -
Distinguishing character: Dark paws, but is distinctive in the sharp contrast between the dark chocolate brown of its upper part and the sharply defined rich yellow of the under surface.
Distribution: Nepal himalayas eastward to Assam.
Records: Reported from Ghandruk area(BCDP). Strong and agile creature which even after being flattened by a board survived to escape in the Bhaisekharka jungle (Gurung pers. obs.).
Habitat: Dens among any convenient shelters ranging from hollows in logs to burrows or holes. Presumed to range not above 3660 m.

Mustela strigidorsa Gray

Common name: Stripe backed weasel
Local name: -
Distinguishing character: Distinctive in the white or whitish streak along its back and belly.
Distribution: Temperate forests along the Nepal himalayas.
Records: Suspected to occur in the temperate forests of the Conservation area.

Habitat: Forest dwellers, usually sheltering among rocks, hollow stumps, burrows and clefts among stone walls. Elevational range includes from 1220 m. to 2135 m. (Prater 1990).

Mustela altaica Pallas

Common name: Pale weasel
Local name: -
Distinguishing character: Its paws are white but its tail is without the black tip as in ermine.
Distribution: Distributed in the uplands of the himalayas.
Records: Suspected to occur among *Caragana* habitat in the Conservation area based on Upreti and Majpuria(1989).
Habitat: Shelters among rocks, boulders, burrows and any convenient structure providing cover. Elevational range reported from 2135 m. to 3960 m.

FAMILY: SORICIDAE

Suncus murinus (Linnaeus)

Common name: Ground shrew or house shrew
Local name: Chhuchundro
Distinguishing character: Long pointed snout, projecting beyond the lower lips, small eyes, body covered with soft fur, feet and tail sparsely clad with hair.
Distribution: Widely distributed or cosmopolitan. At least twelve races have been assumed to occur in the Indian peninsula (Prater 1990).
Records: Reported and recorded throughout the conservation area excepting the alpine regions(BCDP).
Habitat: Shelters in clefts, cracks, burrows in or near houses visiting often at dusk or after lamplight. Nest is built roughly with straw, dead leaves, and other debris.

Soriculus nigrescens (Gray)

Common name: Sikkim large-clawed shrew
Local name: Chhuchundro
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Broad leaved forests and conifer forests (Upreti and Majpuria 1989). Found in between 1560 m to 4300 m in the himalayas.

Soriculus caudatus (Horsfield)

Common name: Brown toothed shrew
Local name: -
Distinguishing character: -
Distribution: Central and eastern Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Elevational range reported from 1800 m to 3600 m.

Soriculus leucops (Horsfield)

Common name: -
Local name: -
Distinguishing character: -
Distribution: Central and eastern Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: -

Soriculus baileyi

Common name: Baileyi's shrew
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: West himalayas.

Nectogale elegans Milne-Edwards

Common name: Tibetan watershrew
Local name: -
Distinguishing character: -
Distribution: According to Wilson and Reeder, very unlikely of its occurrence in the Conservation area.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Upper Mustang of Conservation area eventhough highly unlikely.
Habitat: -

Chimarrogale himalayica (Gray)

Common name: Himalayan water shrew
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: In mountain streams from 800 m to 1500 m mostly associated with evergreen forests.

FAMILY: PTEROPODIDAE

Pteropus giganteus (Brunnich)

Common name: Flying fox
Local name: Chamero
Distinguishing character: Large sized bat with usually reddish brown head, and a darker snout. Hind neck and shoulders pale brownish yellow to straw, dark brown or black behind shoulders. Ventrally yellowish brown. Chin, neck, vent and flanks darker. Wings black.
Distribution: Nepal, India, Ceylon and Burma.
Records: Locally reported from Pakhurikot and Nagidhar areas of Lamjung (Shretha et. al. 1992).
Habitat: Roosts on large trees, often amidst busy towns and villages. Reported to range as high as 1500 m.

Rousettus leschenaulti (Desmarest)

Common name: Fulvous fruit bat
Local name: Chammero
Distinguishing character: Medium sized bat, uniformly light brown, occasionally yellowish in color, sometimes hairless during spring and summer molts. Odor like that of fermented fruit.
Distribution: Nepal, India and south east Asia.
Records: Locally reported from Pakhurikot and Nagidhar areas of Lamjung (Shretha et. al. 1992).
Habitat: Roosts in caves, man-made structures such as tunnels, rocks, caves, wells and rooms in old ruins. Probably found upto 2150 m. (Prater 1990).

FAMILY: RHINOLOPHIDAE

Rhinolophus ferrumequinum (Schreber)

Common name: Greater horse-shoe bat
Local name: -
Distinguishing character: -
Distribution: Temperate zones of the himalayas. Extend throughout Nepal.
Records: Suspected to range in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Rhinolophous affinis Horsfield

Common name: Intermediate horseshoe bat
Local name: -
Distinguishing character: -
Distribution: North and central regions of Nepal. Reported to range throughout Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds. Found as high 2900 m.

Hipposideros armiger (Hodgson)

Common name: Himalayan leaf nosed bat
Local name: -
Distinguishing character: Central to eastern Nepal.
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds. Ranges as high as 3050 m. (Upreti and Majpuria 1989).

Hipposideros cinarescens Blyth

Common name: Little leaf nosed bat
Local name: -
Distinguishing character: -
Distribution: South western Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds. Assumed altitudanal range upto about 1500 m.

FAMILY: VESPERTILLIONIDAE

Barbestella leucomelas (Cretzschmar)

Common name: -
Local name: -
Distinguishing character: -
Distribution: Found throughout Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Nyctalus montanus (Barret-Hamilton)

Common name: Indian noctule
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Pipistrellus coromandra (Gray)

Common name: Coromandel
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Pipistrella babu Thomas

Common name: Babu
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis mystacinus (Kuhl)

Common name: Whiskered bat.
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis nepalensis

Common name: Nepal bat
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis siligorensis (Horsfield)

Common name: Himalayan whiskered bat.
Local name: -
Distinguishing character: -
Distribution: Throughout Nepal except for the extreme northern areas.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis formosus (Hodgson)

Common name: Hodgson's bat
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis muricola (Gray)

Common name: -
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis sicarius Thomas

Common name: -
Local name: -
Distinguishing character: -
Distribution: Central and eastern Nepal.
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

Myotis minopterus

Common name: -
Local name: -
Distinguishing character: -
Distribution: -
Records: Based on Upreti and Majpuria (1989), Shah (1990), suspected to occur in the Conservation area.
Habitat: Caves, crags, large enclaves, abandoned ruins and temporary sheds.

FAMILY: SCIURIDAE

Dremomys lokriah (Hodgson)

Common name: Orange bellied himalayan squirrel
Local name: Lokharke'
Distinguishing character: Dark rufous brown animal, sometimes slightly speckled with dark yellowish brown. Though this genus is not well defined, it differs from the genus *Callosciurus* in the length of the rostrum where it tends to lengthen in this genus (Mitchell 1979).
Distribution: Nepal, Sikkim, Darjeeling, Mishmi, Assam and Northen Burma.
Records: Reported by Mitchell (1979). Recorded in southern slopes of the Annapurna range (BCDP).

Habitat: Oak-Rhododendron forests of Central Nepal and sub-tropical forests of eastern Nepal. Nests in hollows of trees, generally low down in the trunk. Ranges between 1000 m. to 2700 m. (Mitchell 1979).

Callosciurus pygerythrus (Geoffroy)

Common name: Hoary bellied himalayan squirrel
Local name: Lokharke'
Distinguishing character: Brilliantly colored, speckled olive brown to grey dorsally and light rufous or buff ventrally. The tail is olive brown with bands of black and white formed by annulated hairs. Females bearing two pairs of mammae.
Distribution: Through Nepal, Darjeeling, Sikkim and Bhutan.
Records: Recorded from the southern slopes of the Annapurna range (BCDP).
Habitat: Occupies lower elevations in mixed forest zones of the Siwalik foothills and the Mahabharat range. Often visitors to orchards and villages. Shelters among holes in trees. Northern elevational range overlaps with the Orange-bellied himalayan squirrel. Occurs between 400 m. to 1525 m. (Mitchell 1979, Prater 1990).

Petaurista elegans caniceps (Gray)

Common name: Grey headed flying squirrel
Local name: Udne' lokharke'
Distinguishing character: Large, nearly naked ears and an ashy grey speckled head. Dorsal pelage uniform rufous brown somewhat ashy grey at base of fur. Under surface usually rufous, sometimes chestnut. Females bearing three pairs of mammae.
Distribution: From Nepal himalayas to Sikkim.
Records: Locally reported throughout the southern slopes of Annapurna range (BCDP). Specimen preserved.
Habitat: Occupies Oak-Rhododendron forests of central midland, temperate and coniferous forests of eastern midland. Both sexes build nests of ferns and leaves. Usually ranges between 2100 m. to 3660 m (Mitchell 1979).

Petaurista magnificus (Hodgson)

Common name: Hodgson's flying squirrel
Local name: Udne' lokharke'
Distinguishing character: Deep maroon backed with a bright yellow median line down the middle. Body darker than the gliding membrane. Tail tipped black and underparts rufous. Females have six pairs of mammae. Almost 25% larger than Grey headed flying squirrel.
Distribution: Nepal to Sikkim.
Records: Locally reported from southern slopes of Annapurna range(BCDP).
Habitat: Among oak-rhododendron forests of the midlands sheltering among oak and rhododendron trees.

Gliding distance by this species may occur from 60 m. to 100 m. and ranges between 1800 m. to 3000 m. (Mitchell 1979).

Hylopetes alboniger (Hodgson)

Common name: Parti-colored flying squirrel
Local name: Udne' lokharke'
Distinguishing character: Smaller with moderately long fur which is soft and dense. Upper parts ranging in color from grayish brown to rufous brown with an ashy or slate black undercoat. Venter is white with a dark undercoat. Feet and tail brown.
Distribution: Through Nepal himalayas, Sikkim, Bhutan, Assam to Burma and Yunnan.
Records: Locally reported from the southern slopes of the Annapurna range and suspected to occur(BCDP).
Habitat: Inhabits oak-rhododendron forests of the midlands, sheltering in oak-rhododendron trees. Found in between 1500 m. to 2800 m. (Mitchell 1979).

Petaurista inornatus

Common name: Red flying squirrel
Local name: -
Distinguishing character: -
Distribution: -
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990).
Habitat: Sub-tropical to upper reaches of temperate forests.

Petaurista nobilis

Common name: Flying squirrel
Local name: -
Distinguishing character: -
Distribution:
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990).
Habitat: Suspected to range within the forested region of the area.

Marmota bobak himalayana(Hodgson)

Common name: Himalayan marmot
Local name: Apra (Mustangi)
Distinguishing character: Badger shaped with short rounded ears and a short and slightly flattened tail. Pale tawny mixed with black on the upper parts. Cheeks rufous and the face and terminal third of tail are dark

brown. Females have six pairs of mammae. Dental formula: i 1/1; c 0/0; pm 2/1; m 3/3 = 22.
Distribution: Northern Nepal (Mustang), Tibet, Szechuan and Sikkim.
Records: Recorded in upper Mustang (BCDP).
Habitat: Inhabits northern alpine regions of the Trans himalayas and the Tibetan steppe biotope in rocky ridges. Usually found in colonies which hibernate in winter. Usually found between 3960 m. to 5500 m.

Arctomys hodgsoni

Common name: Tibetan marmot
Local name: -
Distinguishing character: -
Distribution: Tibetan region to Sikkim.
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Dry alpine steppe biotope.

FAMILY: MURIDAE

Mus musculus homorus Hodgson

Common name: Common house mouse
Local name: Dungre' moosa
Distinguishing character: About 2-3 inches in body length with an equal tail length. Color varies from dark to light brown. Tail is covered with small scales and sparse hair.
Distribution: Origin from Asia but now cosmopolitan.
Records: Throughout ACAP region(BCDP).
Habitat: Commensal, usually living in holes, crevices, burrows where available among human settlements. Also lives in fields, among bushes and in woodland (Macdonald 1983). Probably extends upto reaches of human settlements at about 3660 m.

Mus musculus castaneus Waterhouse

Common name: Asian house mouse
Local name: -
Distinguishing character: -
Distribution: -
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).

Habitat: Commensal

Mus musculus urbanus Hodgson

Common name: City mouse
Local name: -
Distinguishing character: -
Distribution: Terai and midland
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Domestic

Mus musculus booduga (Gray)

Common name: Field mouse
Local name: -
Distinguishing character: -
Distribution: Terai and midland himalayas
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Commensal, field and wild

Rattus nitidus (Hodgson)

Common name: Himalayan rat
Local name: -
Distinguishing character: -
Distribution: Midland himalayas
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Commensal, field and wild

Rattus rattus ehaeha Wroughton

Common name: Wild rat
Local name: -
Distinguishing character: -
Distribution: Himalayas
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990)

and Shrestha (1989).
Habitat: Wild

Rattus rattus brunnens Hodgson

Common name: Common house rat
Local name: -
Distinguishing character: -
Distribution: -
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Domestic

Bandicota bengalensis (Gray & Hardwicke)

Common name: Lesser bandicoot rat
Local name: -
Distinguishing character: -
Distribution: Terai and midland
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Commensal field

Bandicota indica (Bechstein)

Common name: Greater bandicoot rat
Local name: -
Distinguishing character: -
Distribution: Midland
Records: Suspected to occur within ACAP boundaries according to Upreti and Majpuria (1989), Shah (1990) and Shrestha (1989).
Habitat: Commensal field

Millardia meltada (Gray)

Common name: Metad
Local name: Moosa (Nepali); Namyu (Gurung)
Distinguishing character: Dense soft fur, large rounded ears differentiates it from others. General color pale brownish grey, grayish white on the underside.

Distribution: Whole of Indian peninsula including Nepal.
Records: Recorded from Ghandruk (1 specimen), observed near Pasgaon, Lamjung at night on trail (BCDP).
Habitat: Near cultivated fields, heavy scrub surrounded by forests, often sheltering among rocks and tumble-down walls. Burrows slight holes at the roots of a bush or under hedges favoring prickly pear hedges. Recorded as high as 2200 m.

Alticola roylei (Gray)

Common name: Royle's vole
Local name: Apra (Mustangi)
Distinguishing character: Short muzzle, rounded head with ears projecting above the fur and has a cylindrical body. Short thumb, clawless or compressed claw and distinct teeth. Grinders have flat crowns presenting somewhat like alternating triangles except in worn out conditions. Tail half the length of the body. A rufous brown animal, paler and yellowish on the sides, pale brown below with the color of the tail similar to that of the back.
Distribution: Found in trans himalayan zones of Kashmir, Ladak, Nepal and Tibet.
Records: Recorded at 4300 m on Tibeto-Nepal border in Mustang.
Habitat: Lives in colonies in burrows on the high flat grasslands, often seen scurrying from one burrow to another. Prater (1990) assumes minimum elevational range to 3000 m. but is probably high in the Conservation area.

FAMILY: HYSTRICIDAE

Acanthion leucurus Hodgson

Common name: Indian porcupine
Local name: Dumsi
Distinguishing character: Quills or spines clearly gives the identity of this animal. Short tail and conspicuously forming crest when spines are erect distinguishes from others.
Distribution: Nepal, India and probably to Assam.
Records: Reported by Hodgson and suspected to occur in the Conservation area.
Habitat: Burrows near fields, open shrubby areas near forests or in the middle of forests. Reported to occur as high as 2745 m. (Upreti and Majpuria 1989).

Acanthion hodgsoni Hodgson

Common name: Crestless himalayan porcupine
Local name: Dumsi
Distinguishing character: Similar to Indian porcupine except the crest when erect is absent in this animal.

Distribution: Nepal, India and to Assam.
Records: Recorded from Ghandruk (BCDP).
Habitat: Burrows near fields, open shrubby areas near forests or in middle of forests. Recorded from 2000 m. but probably exceeds upto 3000 m.

FAMILY: LEPORIDAE

Lepus oiostolus Hodgson

Common name: Woolly hare
Local name: Phorlung (Mustangi)
Distinguishing character: Ashy-grey back, rufous on breast and white below. Ears white with dark linings behind the pinna.
Distribution: Higher trans-himalayan regions of Nepal and Sikkim.
Records: Species recorded in Damodar kunda (BCDP).
Habitat: Open grassland and scrubland. Sheltering in holes, burrows, among rocks and crevices in alpine regions. Recorded as high 4300 m.

Lepus capensis tibetanus Waterhouse

Common name: Cape hare
Local name: Phorlung (Mustangi)
Distinguishing character: -
Distribution: Through Kashmir into Nepal.
Records: Species identification uncertain however possibly could be those recorded or reported from the Mustang or lower Manang regions of ACAP.
Habitat: Open grassy, shrubby areas and among rocks and boulders. Rarely visits human habitation and refrains from forested areas. Reported altitude ranges as high as 4300 m.

Lepus nigricollis Cuvier

Common name: Rufous tailed hare
Local name: Kharayo
Distinguishing character: Rufous brown coat much mixed with black on back and face, breast. Limbs are rufous, upper throat and lower parts white, upper surface of tail is rufous brown.
Distribution: - Distributed along the midhills of Nepal.
Records: Locally reported from Bhujung and Ghanapokhara area(BCDP).

Habitat: Inhabits lower temperate and upper sub-tropical regions favoring open areas interspersed with rock, shrubs and grass either at forest edges or in middle of forests. Probably found as high as 2400 m.

FAMILY: OCHOTONIDAE

Ochotona roylei (Ogilby)

Common name: Pika or Himalayan mouse-hare
Local name: -
Distinguishing character: Short muzzle, small rounded head, rounded ears and no tail. Hair is exceedingly fine, straight, glossy with reddish brown coat.
Distribution: Distributed throughout the himalayas and Nepal spreading into eastern Europe and North America.
Records: Recorded from most areas of ACAP of which trans himalayan forms belong to another species.
Habitat: Found in open and forested areas. Pine forest on steep slopes often preferred. Shelters under rocks and piles of litter debris. Recorded as high as 3700 m. (Prater 1990) and as low as 2000 m. (Khanal pers. comm.).

Ochotona curzoniae

Common name: Pika
Local name: -
Distinguishing character: Whitish grey speckled with black.
Distribution: West himalayas
Records: Assumed to be one of the species recorded in Mustang of trans himalayan region.
Habitat: Open grass and scrubland of *Caragana, Juniperus* scrubs. Often encountered scurrying from one scrub to another and among rocks, boulders, talus and scree. Assumed to occur above 3000 m in the Trans-himalayan zone.

Ochotona lama

Common name: Pika
Local name: -
Distinguishing character: Reddish brown speckled with black and no tail.
Distribution: West himalayas and confined to Mustang only (Khanal 1993).
Records: Recorded on trail to Ghami and Damodar Kunda.
Habitat: Open grass and scrubland of *Caragana, Juniperus* scrubs. Often encountered scurrying from one scrub to another and among rocks, boulders, talus and scree. Assumed to occur above 3640 m in the Trans-himalayan zone (Khanal 1993).

FAMILY: EQUIDAE

Equus hemionus kiang Moorcroft

Common name: Asiatic wild ass
Local name: -
Distinguishing character: Dark red with a narrow dorsal stripe and larger horse like hooves. Tail is short.
Distribution: Ladhak, Tibet and northern borders of Tibet and Nepal.
Records: Locally reported from the border area and north of Damodar Kunda valley (BCDP).
Habitat: Dry steppe alpine biotope of the Tibetan plateau complex. Probably ranges above 3960 m. in the trans himalayan zones adjoining Tibet.

FAMILY: BOVIDAE

Bos grunniens Linnaeus
Syn: *Bos mutus*

Common name: Wild yak
Local name: Dzho
Distinguishing character: High humped shoulders with a drooping head and curved pointed horns growing from the sides of the head. The coat is dense, long and wooly and dark brown color in wild yaks.
Distribution: Ladhak, Nepal, Tibet and Kansu province of China.
Records: Locally reported along the northern borders of Nepal with Tibet in Mustang.
Habitat: Inhabits the coldest, wildest arctic and desert biotope of the Trans-himalayan zones. Reported elevational range includes 4115 m.(Macdonald 1983) to 6100 m.(Prater 1990).

Ovis ammon hodgsoni Blyth

Common name: Great Tibetan sheep or Argali or Nayan
Local name: -
Distinguishing character: Long legs with graceful strides of antelopes. Horns in males never exceeds a single circle. Old rams develop white ruff around neck usually shed during summer. Females have little or no mane at all. Light brown, darker on withers, rump, tail, throat, chest and belly but the insides of the legs are white.
Distribution: Tibet, Ladhak, northern borders of Nepal and eastward to north of Sikkim.
Records: Locally reported of sightings of these animals in Damodar Kunda valley(BCDP).
Habitat: Frequents borders of the snowline, entering ravines with streams and low bushes. Inhabits the desolate plains and low undulating sand hills in steppe arctic biotope of the Tibetan plateau. Usually found above 4575 m.(Prater(1990).

Pseudois nayaur (Hodgson)

Common name: Blue sheep
Local name: Bharal, nayur, pho(Manangi)
Distinguishing character: General color is brownish grey suffused with slaty blue, browner in summer and more distinctly grey in winter. Face and chest in old rams black. Black stripe run along the middle of each flank and down the front of the legs in males. Horns are smooth with distinct lines of growth curving backwards at the tip.

Distribution: Found along borders of Tibet, Pakistan, India, Nepal, Bhutan and well into eastern Qinghi, Sichuan, southern Gausu and Shanxii province of China (Wang and Hoffman 1987).
Records: Recorded above Ghami, Tibetan border, Damodar Kunda and the Manang valley (BCDP). Population studies conducted in Nar-Phu valley by Sherpa and Oli (1988).
Habitat: Above treeline in dry open grassland, scrubland among rolling terrain interspersed by broken terrain, cliffs, talus or scree. Reported elevational range includes 2400 m. to 6000 m. (Wang and Hoffmann 1987).

Hemitragus jemlahicus (Smith)

Common name: Himalayan tahr
Local name: -
Distinguishing character: Narrow erect ears, heavy body and long, robust limbs. Hairs on head and

face relatively short. Grows mane sweeping down to knees. Deep reddish brown color. Horns short and close set.
Distribution: Throughout the himalayas in Nepal, Sikkim and Bhutan.
Records: Recorded throughout mesic alpine regions of the Annapurna region(BCDP).
Habitat: Inhabits grassy and moist precipitous terrain of towering cliffs, rocks, dense scrub and forests. Known to prefer forests of oak and ringal and cane. Generally favoring altitudes of 2500 m. to 4400 m.

Capricornis sumatraensis (Bechstein)

Common name: Mainland serow
Local name: Thar (Nepali); Ya (Gurung)
Distinguishing character: Has large head, donkey like ears, thick neck and short limbs. Coat color varies from grizzled black or blackish grey-roan to red. In the himalayan form, the limbs are chestnut above and dirty white below.
Distribution: Ranges from the himalayas of Kashmir, India, Nepal, Sikkim, Bhutan into Burma and the Malayan Mainland.

Records: Locally reported throughout the wetter slopes of the range and into the Kaligandaki and Marsyangdi valley. Recorded hunted meat ready for drying in Ghalegaon(BCDP).
Habitat: Prefers forested areas sheltering in thick bamboo groves on steep slopes. Usually favoring elevations between 1850 m. to 3050 m (Prater 1990).

Nemorhaedus goral Pocock

Common name: Brown goral
Local name: Ghoral (Nepali); Tonsar (Gurung)
Distinguishing character: Stocky goat like animal with coarse hair forming a small crest on the neck. Golden or rufous brown coat speckled with black. Black spinal stripe reaches to the root of the tail, but tapers away and is indistinct on the croup. The tail is black above.
Distribution: Through the himalayas of Pakistan, India, Nepal, and into the mountains of China, Korea and south eastern Siberia.
Records: Recorded throughout the southern slopes of the Annapurna range and extending into the Marsyangdi and Kaligandaki valleys.
Habitat: Prefers steep, grassy hillsides with rocky outcrops and small cliffs ranging in between 300 m. to 3000 m.(Jackson 1990). However it has been reported as high as 4250 m. (Prater 1990).

Pantholops hodgsonii (Abel)

Common name: Chiru or Tibetan antelope
Local name: Chiru
Distinguishing character: Remarkable for its swollen snout where the muzzle is peculiarly swollen in the males. Each nostril is furnished with a large lateral chamber or sac whose function may assist in breathing the rarified air. The general color of the coat is pale fawn above and white below. Horns are distinctly long and slender. Females are horniess.
Distribution: Tibetan desert often crossing over to Nepal.
Records: Locally reported from upper Mustang(BCDP).
Habitat: Grassy open slopes of steppe habitat of Tibetan plateau. Often shelters and rests in excavated hollows. Presumably found above 3960 m.

FAMILY: CERVIDAE

Muntiacus muntjak Zimmermann

Common name: Barking deer
Local name: Ratuwa mriga or Rate' (Nepali); Tengi (Gurung)

Distinguishing character: Antlers are small consisting of a short brow-tine and an unbranched beam, set on bony hair with covered pedicel extending down on each side of the face as bony ridges. In females, tufts of hair replace the horns. Upper canine of males well developed. Usually the coat color is red.
Distribution: Ranges through Indo-Malayan countries including Nepal, China, Formosa and Japan.
Records: Well recorded and reported throughout ACAP excepting the trans-himalayan dry steppe biotope.
Habitat: Haunts thickly wooded hills, preferring ravines, stream gorges, dried up stream beds and thick undergrowth for cover. Favors altitudes between 1500 m. to 2450 m. (Prater 1990) in the mountains, however, dropping were recorded as high as 3050 m.

Moschus chrysogaster Linnaeus

Common name: Himalayan musk deer
Local name: Kasturi (Nepali)
Distinguishing character: Horns absent which is compensated by well developed canine teeth particularly in males. The presence of musk pod is a distinct feature. The lateral part of tail has no hair bearing a caudal slit which is buried in the long hairs of the anal region. The general color is a shade of rich dark brown speckled with grey.
Distribution: Through himalayan ranges of India, Sikkim, Bhutan and parts of Pakistan (Jackson 1990).
Records: Recorded and reported from southern slopes of ACAP as well as the Marsyangdi valley upto Khangasr and the Kali Gandaki Valley(BCDP).
Habitat: Associated with temperate, subalpine and alpine zones, preferring birch-rhododendron forests and scrub and conifer forests. Favorable elevational range includes 3000 m. to 4600 m. (Kattel 1993).

FAMILY: SURIDAE

Sus scrofa Linnaeus

Common name: Indian wild boar
Local name: Bandel (Nepali); Tomro (Gurung)
Distinguishing character: General color is black mixed with grey, rusty brown and white hairs. Crest or mane of black bristles reaching from the nape down the back. Tushes well developed in males. Both the upper and lower tushes curve outward and project from the mouth.
Distribution: Whole of Indian peninsula including Nepal, Siam and Malayan peninsula.
Records: Locally reported as occurring in the past in Lamjung area (BCDP). Probably exterminated as no recent reports are available from the Conservation area.
Habitat: Haunts grass or scanty bush jungles, sometimes in forests. Often visitors in ripe cultivations. Presumably found as high as 1500 m. in the Conservation area.

notably a small portion area. Some scattered form of *Abies spectabilis* can be found here. ***Rhododendron anthopogon, Piptanthus nepalensis, Berberis erythroclada*** are common shrubs of this area.

The Base Camp region upto Machhapuchhre Base Camp, a number of common plants like ***Lyonia ovalifolia, Pieris formosa, Juglans regia, Maesa chisia, Machilus odoratissima, Viburnum mullaha, Rhododendron arboretum, R. barbatum, R. campanulatum, Mahonia nepaulensis, Quercus lamellosa, Acer sp, Fraxinus floribunda*** and ***Betula utilis*** can be found dominating.

Alpine region is represented by Base Camp Areas including Machhapuchhre Base Camp, Annapurna Base Camp and Gangapurna Base Camp. The major components of plants in this area are ***Juniperus recurva, Ephedra gerardiana, Rhododendron lepidotum, Rhododendron anthopogon, Delphinium roylei, Aquilegia nivalis, Corydalis juncea*** and ***Salix caliculata.***

General distribution of plant species in the areas West of Madi is summarised in Fig. 4.12.

4.5 FAUNA:

4.5.1 FAUNAL COMPOSITION:

Herpetofauna: Herpetofauna of the Conservation area shows a great variation describing a trend in the distribution of different species corresponding to the different zoogeographical zones. A confluence of various zoogeographic variations, a number of diverse herpetofauna ranging from the Oriental Indian species to the Tibetan species from the North coexist in the study area. While the reptilian fauna were noted as far north as the Upper Mustang valley, amphibians were restricted more or less to the southern slopes.

Amphibians: Five families of amphibians represents the species richness in the area. In total 22 species were recorded or reported from all study sites. Toads and frogs were the most frequently observed and reported species. The family ranidae is known to have commercial value as it is frequently haunted for meat and medicine. Swan and Leviton (1962) presumes a variety of species suspected to occur throughout Nepal and based on the description, several of the species has been assumed or suspected to occur within ACAP's limits. Shah (1991) reports of Nanhoe, Oubetor and Shah conducting an inventory study on herpetology of the Annapurna-Dhaulagiri region and describes about 21 species. Concurrent to their findings, amphibians are well represented in comparison to 36 species reported by Swan and Leviton (1962). A new species [***Bufo microtympanum*** Boulenger] has been newly recorded from the collection made by the team.

The classifications recruited by Swan and Leviton (1962), Leviton Myers and Swan (1956) and Nanhoe and Ouboter (1987) and Shah (1991) for prescribing taxas. Even if hardly any recent descriptions of amphibians for the Conservation area exists, distribution and enumeration has been based on the above mentioned authors

and the findings of this team. So far, 22 species from 8 genera and from 5 familiés has been identified to either occur or suspected to occur (See Appendix Vol. I).

Reptiles: Reptilian fauna is interesting as it occupies a varied habitats of humid to dry steppe environment of the Trans-himalayan zones. In total 34 species of reptiles have been described as occurring or suspected to occur in comparison to 49 species anticipated for the area of the 140 species of reptiles reported for Nepal by Swan and Leviton (1962). Seven families of the class reptile form the major species found. Lizards and snakes were more often frequented and reported whereas other families were hardly reported. Two new species of snakes [*Eluphe porphyracea porphyracea* Cantor and *Trimeresus erythrurus* Cantor] have been identified for the first time in Nepal. Tortoise from Testunidae family were not reported throughout the region and hence has very little probability of being found in the Conservation area.

Classifications adopted by Swan and Leviton (1962), Leviton, Myers and Swan (1956), Majupuria (1982), Welch (1988) and Shah (1991) were combinely discussed for identifying each taxa. Synonyms have been avoided as far as possible. Much have been based on Nanhoe and Ouboter's (1987) work done in the Annapurna and Dhaulagiri region. So far, for the Conservation area, 34 species from 8 genera has been identified as being found or suspected to occur in the area (See appendix Vol.I). The reptiles have been described under two significant categories of which the snakes form a larger group of species occurring in the area. Lizards and skinks also represent a significant part of the species richness.

Avifauna:

Birds of the Conservation area include a large variety from about 52 families with a species count of 474. This number represent more than 50% of the birds found in Nepal. Of the 79 families reported from Nepal 52 families have been recorded so far from the area. The Inskipps (1989) have prepared a simple checklist of birds containing 441 species. The final list prepared (See Appendix Vol.I) includes birds recorded by BCDP and other professionals who kindly supported with their findings. The BCDP team could record only about 320 species of birds visiting at one season only.

The classification followed has recruited Fleming et. al.'s (1979) modification to the family level. The families Timallidae, Muscicapidae, Sylviidae and Turdidae has been classified by Ripley as subfamilies but for sake of convenience and following Flemings work, it has been described as separate families. From genus onwards, nomenclature was based on the Inskipps (1991). Subspecies described is based on descriptions from the Inskipps (1990).

Mammals:

Mammals in the area is represented by 23 families. Within theses families, a number of 101 species are suspected to occur. About 64 animals were recorded or reported by the team. The species reported or suspected from within the Conservation area limits show a substantial diversity containing about 66% of a total of 175 species of animals reported by Shah (1991) for Nepal.

Substantial information regarding large mammals is available, however, very little is done on small mammals. Studies have been conducted on the snow leopard, a rare and elusive cat in the Manang valley (Oli 1990). A census on blue sheep has also been done by several scientists (Sherpa and Oli 1988). Depredation studies associated with wild animals have also been conducted. Bats were found least studied and the expected number has been totally based on reviews of previous authors.

4.5.2 ZOOGEOGRAPHY AND SPECIES DISTRIBUTION:

The best known classification of earth into several realms or regions characterized by fauna is that by Alfred Wallace (1823-1913). He recognized six zoogeographical zones of which the Palaearctic and the Oriental comes to discussion in the present context. An analysis of the fauna of Nepal Himalayas depicts a composite of faunal elements drawn from subregions of Oriental and Placarctic realms (Singh 1982). Nepal bridges an intervening zone between these two global realms.

The fauna of eastern Himalayas affected by Indo-Chinese subregion of the Oriental region which includes portion of south eastern Asia as a distinct spur into the Himalayas, shows affinities with fauna of Burma, Thailand and Southern China. The western Himalayas in close contact with the Indian subregion of Oriental region and Mediterranean subregion of the Palaearctic regions comprise of fauna showing affinity towards the fauna of adjacent realms.

However Singh (1982) points out that an endemic Himalayan fauna has not evolved and the number of mammalian species in central Nepal is less than that of the east and west. The cause to limited mammalian fauna in the region is attributed to the fact that the Himalayas are of recent origin and as such the species is less. But Swan and Leviton (1962) have discussed in greater details regarding the distribution of fauna with evidences from recorded herpetofauna which likely suits the distributional pattern for majority of the fauna. Based on their discussion, it has been found that faunal derivatives of the Mediterranean subregions the southern slopes range below 3040 m, while in the Tibetan plateau range as high as 5486 m. It has been recorded that the Pan-Oriental Indian species extend from the plains into the inner valleys of the himalayas and the Indo-Chinese fauna extend westward into Nepal in isolated pockets and is diminutive.

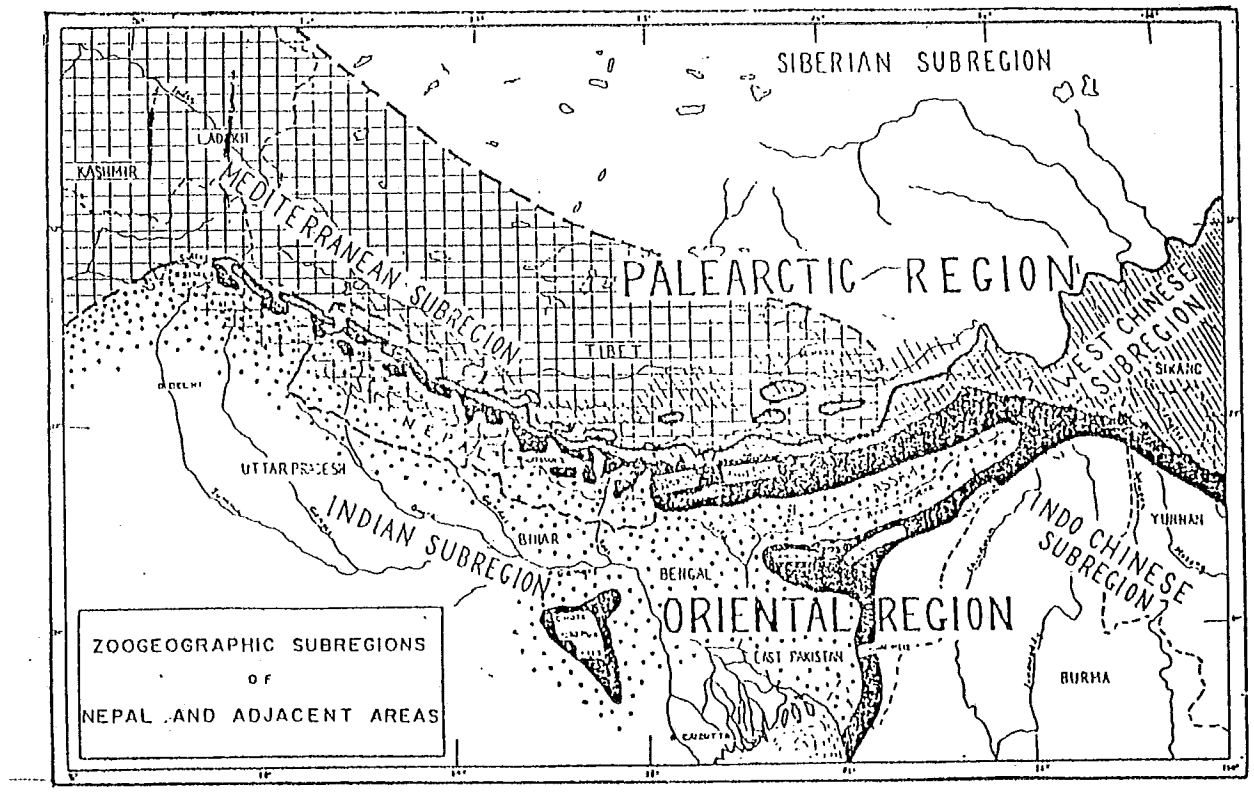


Fig. 4.14 Zoogeographic subregions of Nepal and adjacent areas. (Source Swan & Leviton 1962).

In the global scenario, Annapurna Conservation Area Project occupies a small portion of the central region of Nepal. The area extends from the sub-tropical inner valleys to the extreme north along the border with Tibet. The vertical distance covers a wide range of habitats ranging from wet mesic forests to dry alpine steppe habitat.

In analyzing the zoogeography of the Conservation Area, it is interesting to note that the Annapurna Himal range provides a massif geographical barrier critical in terms of faunal distribution. However the river gorges of Marsyangdi and the Kali Gandaki provide an amiable migration route for many of the fauna. These valleys play an important role in the distribution of different species. The route has thus been classified as a transit for the inter passage of humid and arid fauna. The Conservation area has been divided into four different types of zoogeographical zones largely based on climatic conditions, geo-topographical and broad vegetational characteristics.

a. Humid zone (HZ):

General: This zone includes whole of the southern part of the greater Annapurna himal range extending below Kalopani in the west through to Chame and Pisang area in the east. It supposedly lies between latitudes of

282037N to 284100N and longitudes of 0834135E to 0841230E. Highly characteristics of heavy rainfall as high 3000 mm of precipitation and predominantly south facing which is due to the Annapurna himal range creating a massif barrier. Four regional headquarters including Ghandruk, Lwang, Sikles and Bhujung lies within this zone encompassing parts of Lamjung, Kaski and Myagdi districts. According to ACAP's land-use pattern, it includes intensive use zone, special management zones and protected forest/seasonal grazing and wilderness zones.

Three of the major ecozones characterize its habitat. Subtropical zone lying along the southern limits include the inner valley and alluvial expansions. Vegetation is typically subtropical with Hill sal forests and Schima-Castanopsis forests. The Temperate zone stretches east from Moriya-Dansing to the Marsyangdi valley occupying a vast lustrous extension of thick forests. Forests of Oak, Rhododendron, Birch, Abies and conifers dominate the zone. Subalpine region involves shrubberies of rhododendronand conifers usually wet during the summer and cold during winter. Grasslands dominate the alpine zones interspersed with broken morainal habitat.

Landuse is predominantly cultivation and animal husbandry. Mixed farming is prevalent throughout this area. While the lower areas are intensively cultivated, the forests are primarily used for daily needs such as fuelwood, fodder and timber. Higher up, the temperate forests are exploited for grazing and bamboo collection which is an essential resource for the mountain people. While rice, wheat, millet, maize, mustard, and potatoes are grown, cattle, buffalo, goat and sheep are major mixed livestock holdings.

Species distribution: Characterized by southern part of the greater Annapurna himal range and extending below Kalopani in the west and below Chame area in the east, the distribution of fauna distinguishes as being more rich then other zones. As it is predominantly south facing with high rainfall, lustrous stretches of forests of the sub-tropics through fairly intact temperate forests to alpine shrubberies and grassland with high humidity, it can be assumed that it abhors better habitat for individual species. Its rich faunal composition can be as a result of the lofty sound habitat retained in the area.

Table 4.9: Case recordings of fauna in humid zone.

Total Sites	Location	Fauna type/Case recording			
		Mammals	Birds	Rep.	Amph.
19	Southern belt	55(45.8%)	417(39.9%)	29(74.4%)	14(82.4%)
Elevational Range		Min: 3700'		Max: 14018'	
Latitude/Longitude		Lat: 282037N-284100N Long: 0834135E-0841230E			
Av. dist.		5600 m			

From the findings, it can be concluded that mammals and herpetofauna were more widely distributed with higher recording cases from this zone. However, birds were less frequently recorded (39.9%) as compared to the Transition zone (40.6%) as most are migratory. Mammal case recording with 45.8% in the region assumes high richness. Similarly the reptiles with 74.4% and amphibians with 82.4% of case recordings clearly distinguishes this zone as more diverse than other zones in terms of species counts. The average distance covered per survey time was 5600 m.

b. Transition zone (TZ):

General: The Transition zone very much similar to the sub-alpine and alpine characteristics, is considered as transitional stretch of area with similarities of both the humid type of environment and the dry-arid or tundra type. This area includes the lower Mustang valley above Kalopani and the Manang area above Chame. It is proposed to lie in between latitudes of 284000N to 284430N and longitudes of 0833700E to 0840630E. This area is especially characterized by two drainage, the Kali Gandaki and the Marsyangdi river valleys. Includes Special management zone, intensive use zones, protected forest/seasonal grazing and wilderness zones according to ACAP's land use patterns.

Less precipitation and the gradual shift of humid to dry steppe type of vegetation and landform describes this area. While the average precipitation for five years is 16.09 mm in Jomsom, Manang receives comparatively higher of 30.93 mm due to enclosing the Manang valley by Pisang peak, Mukut himal near Thorangla and the Tilicho himal in the west, hence retaining the moisture to allow better vegetational growth. As such the Manang valley retains better greenery than the Thak Khola valley. Unlike Thak Khola where forests end near about Jomsom, in Manang north facing forest of birch, juniper and pines extend beyond the Khangsar village upto treeline.

The human population density is less with a very different cultural setback. Manang is one of the least populated district. Similarly the Thak Khola valley also has lesser population as compared to the southern belt. Agriculture, animal husbandry and business in tourism are chief occupation for the people.

These areas are particularly critical for wild animals as they provide amiable habitats during harsh conditions. It is assumed to abhor a species rich area where dry land species could find refuge during critical conditions and the species from humid habitats expand their reaches in the area during summer when greenery is optimum.

Species distribution: The Transition zone is assumed to act as a bridge for the migratory fauna. Covering two distinct passageways, the Thak Kola and the Manang valley, it has been found that, Thak Khola represents a better migratory route than the Manang valley. It has been found that sight recordings in Transition zone of birds is greater with 40.6% to 39.9% of the Humid zone. However, the occurrence gradually reduces to 37.5% for mammals, 23% for reptiles and 17.6% for amphibians.

The cooler climate and less precipitation and limited habitat coverage probably reduces the diversity however, this zone is assumed to provide shelter for various species especially the mammals during critical conditions. During the winter when conditions are severe, the alpine and dry-steppe wildlife find refuge and food and during summer when the alpine meadows are lush green, animals from the humid zone range over hence providing a refuge for many for the species.

Table 4.10. Case recordings of fauna in Transition zone.

Total Sites	Location	Fauna type/Case recording			
		Mammals	Birds	Rep.	Amph.
5	Manang Jomsom	45(37.5%)	425(40.6%)	9(23%)	3(17.6%)
Elevational Range		Min: 8200'		Max: 13448'	
Latitude/Longitude		Lat: 284000N-284430N Long: 0833700E-0840630E			
Av. dist.		5240 m			

Bird migration is conspicuous and the Thak Khola region has attracted international attention. Inskipp (1989) emphasizes the importance of this valley for bird migration. As a passage way, reptiles and amphibians alike are varied. The king cobra believed to be a totally lowland species was recorded from the Thak Khola region by Shah (1991). Similarly, reports of the snow leopard in the Annapurna and Machhapuchhere Base camp area could probably be true even though habitat characteristics are unsuitable.

c. Arid or Tundra Zone (AZ):

General: The valleys and terrains north from the transition zones describe this area. The cold, arid semi-desert biotype distinguishes it from others. It is supposedly situated between latitudes of 284430N to 291715N and longitudes of 0835830E to 0841230E. Rainfall is marginal and temperatures very low. Vegetational structures include shrubberies of Junipers, Caragana, Rosa and Cotoneaster. Pocket areas retain forested land and willows and Populas stands are protected near villages and settlement areas. The northern Mustang and the Nar-Fu valleys have been designated under this zone Includes anthropological/biotic study area zone and wilderness zones. Recent inclusion of Upper Mustang has increased the area of this type of habitat.

Landuse is basically for grazing and cultivation. Animal husbandry and trade are the basic occupation to suffice demands for survival. Barley, naked barley, wheat, millet and potatoes are chief agricultural products. Yaks, dzokpa, sheep and goats are major cash earning livestocks.

Species distribution: The arid or tundra zone is characterized by cold semi-desert environment and rough topography with very little precipitation and low population density. Vegetational structures include shrubberies,

grassland and conifer forests. This area includes the Mustang river valley, north till the Tibetan boarders and the stretches of vast scrub and grasslands north of Manang valley.

Table 4.11: Case recordings of fauna in Arid zone.

Total Sites	Location	Fauna type/Case recording			
		Mammals	Birds	Rep.	Amph.
5	North of Manang and Jomsom	20(16.7%)	204(19.5%)	1(2.7%)	-
Elevational Range		Min: 9676'		Max: 17384'	
Latitude/Longitude		Lat: 284430N-291715N Long: 0835830E-0841230E			
Av. Dist.		7200 m			

The harsh environment has developed specific adaptational features among the many species of animals found in the area. As evident from case recordings, it is assumed to be least diverse in terms of faunal richness as compared to the Humid and Transition zones. Birds are better represented with 19.5% as compared to 16.7% for mammals and 2.7% for reptiles. However, this does not represent the dynamics of an ecosystem.

d. Rock and Ice zone (RZ):

The rock and ice zone is characterized by the empty towering vast areas of perpetual snow and ice. This zone extends beyond 5000 m where life is very harsh and the conditions severe. Life is often scarce and if occurring, then probably for migration or vagrant. Birds have been reported as high as about 7000 m but is usually there on migration. These habitats are often used by upland animals mainly for cover and migration. It has been found that voles, pikas and alpine felids and ungulates partially utilize the terrain for a short time.

4.6 HABITAT TYPES

4.6.1 SIGNIFICANT HABITAT:

As wildlife populations are governed by availability of food and cover, habitat conditions generally help in predicting the presence or absence of species. The rating of habitats require extensive knowledge on behavioral ecology of animals to model a habitat. Though details of habitat quality can be assessed through use of Habitat Suitability Index Models, Life Form approach and Guilding approach, a general overview of habitat in terms

of vegetation type, land use and geo-topographical features can also help in general predictions. The different type of habitats available also describes the healthiness of an ecosystem.

Forest Type:

Major habitats based on ecozones by forest type available in the area has been described below. These habitats represent only forest type classified by Stainton (1972) with their common components irrespective of its continuity and age. Vertical stratification of these forest types were not recorded.

Tropics and Sub-Tropics

I. Hill Sal Forest:

A small patch of Sal, associated with *Castanopsis indica* and *Ficus semicordata* can be noted along the main river valleys. *Bauhinia veriegata, Schima wallichii* are other associated species of this forest. It is restricted to steep slope near Singdi village on the southern aspect at 1500m. Scattered Sal trees are found in Madi and Khudi basin.

Such forested habitats create significantly suitable habitat for the elusive clouded leopard (Jackson 1990). However the presence of this cat lay in doubt, reports of a different cat than the forested leopard is often heard of. More intensive search on its possible occurrence is required.

II. Subtropical Deciduous Hill Forest:

The Simal dominating Tropical Deciduous Hill forest is scattered in the river valleys like Madi, Modi and Marsyangdi. *Woodfordia fruticosa, Colebrookea oppositifolia, Zizyphus mauritiana, Justicia adhatoda* are the common associated species of plants in Madi valley. Species like *Woodfordia fruticosa, Maesa chisia, Colebrookea oppositifolia, Erythrina stricta* are associated in Modi valley. Khudi and Midim valleys also have some Simal trees at the Marsyangdi confluences.

The presence of such forest type is an indication of riverain habitat but its use by wildlife and human population effects significantly in the faunal composition. However since such habitats are restricted more or less to small inner valleys along rivers, it has a significant role in the faunal composition.

III. Schima-Castanopsis Forest:

This forest reaches upto 1800m and were predominantly found along the south, east and west facing slopes. As the settlement is dense in subtropical regions, these forests are heavily lopped and disturbed. It was noted in Ghalegaun of Lamjung, Sarkiun, Chamje, Bhujung, Lwang, Karuwa and Singdi. *Schima wallichii, Castanopsis*

are less aggressive and more shy. The MHETEY described as having thick and protrusing forehead and more bipedal is highly feared as they are beleived to be more aggressive towards humans. According to those who have sighted this animal it is described as having distinct cropped eyebrows and longer hair with a movement like that of a primate. It is believed to roam higher up and in more rocky areas where natural caves are abundant and inaccessible to humans. These are also known to devour and kill livestock. But to date, the case of Mhetey has only been stories without any particular evidence and the story still is a qeustion of whether it exists or not?

Conclusion:

It can be concluded that the bear observed in the Damodar Kunda valley represents a form of the Tibetan Blue bear (*U. a. pruinosus*) and ranges through Nepal's northern borders along the Trans himalayan zone. It is high time that research be conducted on behaviour, ecology, distribution and its taxonomic status. Eventhough, this animal is listed in the CITES, more attention should be given on its status. In Nepal, its population should be determined and look further into its relation to humans.

Refernces:

Jackson R. 1990. Threatened Wildlife, Crop and Livestock depredation and grazing in the Makalu-Barun Conservation area. Working Paper series. Report No. 12. 105 pp.

MacDonald D. (ed.) 1984. The Encyclopedia of Mammals. Facts on File Publications. New York. 879 pp.

Prater S.H. 1990. The Book of Indian mammals. Bombay Natural History Society, Oxford University press. 324 pp.

Schaller G.B. 1989. Mountain Monarchs: Wild sheep and goats of the Hiamalayas. The University of Chicago Press. Chicago. 424 pp.

Shrestha K.M., Rchards C., Gurung M., and Ale S. 1992. Livestock depredation in several villages of East Kaski district, Annapurna Conservation Area: A rural appraisal. Draft unpub. report. 79 pp.

REFERENCES:

Banerji, M. L. (1962) - Orchids of Nepal. Bishen Singh Mahendra Pal Singh. 129 pp.

Bhandary, H. R. & Shrestha, P. (1982) - Ethonobotanical Approach on The Poisonous Plants of Annapurna and Langtang Himal area. JNHM, Vol. 6, Nos. 1-4, P. 125-135.

Bhandary, H. R. & Shrestha, P. (1986) - Ethonobotanical Investigations on the Poisonous Plants of Manang-Mustang and Adjoining area. JNHM, Vol. 10, Nos. 1-4, P. 133-144.

Bibby, C.J.; Burgess, N.D. and Hill, D.A. (1992) - Bird census techniques. Academic Press, San Diego. 257p.

Boulenger, G.A. (1913) - A list of reptiles obtained by N.H. Stevens in Upper Assam and eastern himalayas, Rec. Ind. Mus. IX. 337-338. (Unseen).

Braatz Susan & et. al. - Conserving Biological Diversity, A Strategy for Protected Areas in the Asia-Pasific Region. World Bank Technical Paper, No. 93. Asia Technical Department Series.

Burbidge, A. A. (1991) - Cost constraints on surveys for nature conservation. P. 3-6 in: C.R. Margules and M. P. Austin, the Nature conservation: cost effective biological surveys and data analysis. CSIRO Australia. 207p.

Carbot, G. B. and Hill, J. E. (1992) - Mammals of the Indomalayan region, a systematic review. Oxford University Press, New York 488p.

Carson, B., Nield, R., Amatya, R. and Hildreth, G. (1986) - Land Resources Mapping Project. Kenting Earth Sciences Ltd., Ottawa, Canada and His Majesty's Government of Nepal.

Central Bureau of Statistics, HMG Nepal (1994) - Population of Nepal by Districts and Village Development Committees/Municipalities (Population Census 1991). 75 - 86 pp.

Cohen, J.A. (1987) - 'Cuon alpinus'. Mammalians species No.100. P 1-3. 3 fig.

Daniel, J.C. (1983) - The Book of Indian Reptiles. Bombay Natural History Society, Bombay. 141pp.

Debnath, H. S. & Nayar, M. P. (1989) - A new species of Meconopsis Vig. (Papaveraceae) from Nepal. Journ. Jap. Bot., Vol. 64, No. 5, P. 157-160.

Department of Forestry and Natural Resources, University of Edinburgh. 22pp.

Department Of Medicinal Plants, HMG Nepal (1976) - Catalogue of Nepalese Vascular Plants. 221 pp.

Department Of Medicinal Plants, HMG Nepal (1981) - Keys to the Pteridophytes, Gymnosperms and Monocotyledonous Genera of Nepal. 90 pp.

Department Of Medicinal Plants, HMG Nepal (1982) - Wild Edible Plants of Nepal. Bull. Dept. of Med. Pla. no. 9. 285 pp.

Dubois, A. (1973) - Diagnoses de trois especess nouvelles d'amphibiens du Nepal. Bull. Soc. Zoon. France. 98: 495-497 - In Zoologische Verhandelingen, by - Lurly M. R. Nanhoe and Paule E. Ouboter, 1987.(Unseen)

Dubois, A. (1974 b) - Liste commentee d'Amphibiens recoltes au Nepal. Bull. Mus. natn. Hist. nat., Peris, 3e ser., 213 (Zool. 143): 341 - 411 - In Zoologische Verhandelingen, by - Lurly M. R. Nanhoe and Paule E. Ouboter, 1987.(Unseen).

Dubois, A. (1981) - Biogeographie des amphibiens de l'Himalaya. In: Paleogeographie et biogeographie de l'Himalaya et du sous- continent indien. - Cah. Nep. C. N. R. S., Paris, 1981: 63 - 74 - In Zoologische Verhandelingen, by -Lurly M. R. Nanhoe and Paule E. Ouboter, 1987. (Unseen)

Efron, B. and Thisted, R. (1976) - Estimating the number of unseen species: how many words did Shakespear know. Biometrika 63 :435-447.

Ernst, C.H. and Barbour, R.W. (1989) - Turtles of the world. Smithsonian Institution Press. Washington D.C. 313p.

Fleming, R.L., Fleming, R.L. Jr. and Bangdel, L.S. (1974) - Birds of Nepal. Avelok Publishers. 358pp.

Fleming, R.L.Jr. and Fleming R.L.Sr. (1974) - Some snakes from Nepal. Journal of Bombay Natural History Society. 70 (3): 426-437 pp.

Frost, D.R. (1985) - Amphibian species of the world: a taxonomic and geographic reference. Allen Press, Inc. and Association of Systematic Collections. 732p.

Giri, M. K., Shakya, P. R., Nepali, H. S., Shah, K. B. (1991). Environmental Management and Sustainable Development in the Arun Basin, Biodiversity Vol.4. KMTNC.

Glen, Goff F. (1982) - Site Examination for Threatened and Endangered Plant Species. Environmental Manag. 6: 307316.

Gruber, U. (1981) - Notes on the herpetofauna of Kashmir and Ladakh. - Brit. Journ. Herp. 6:145 - 150 - In Zoologische Verhandelingen, by - Lurly M. R. Nanhoe and Paule E. Ouboter, 1987.

Gunther, A. (1860) - Contribution to a knowledge of the reptiles of the Himalayan Mountains. Proc. Zool. Soc. London. 148-175. (unseen)

Gunther, A. (1861) - List of the cold blooded vertebrate collected by B. H. Hodson Esq. in Nepal. Proc. Zool. Soc. London. P 213-227.(Unseen)

Gurung, K.K. (1983) - Heart of the jungle, Andre Dentch, London. 197pp.

Gurung, M.K. (1993) - An assessment of the Habitat Models to Predict Distribution and Habitat Pattern of large mammals in the Annapurna Area. Dissertation submitted for Degree in Zoology, Central Department of Zoology, T.U. 69pp. + appendix.

Gurung, V. L. (1991) - Ferns The Beauty Of Nepalese Flora. Shahayogi Press P. Ltd. Tripureshwar, Kath. 234 pp.

Hara, H.,Stearn, W.T., Williams, L.H.J. (1978) - An Enumeration Of The Flowering Plants Of Nepal. Trustees of British Museum (Natural History), London. Vol. I. 154 pp.

Hara, H. & Williams, L. H. J. (1979) - An Enumeration Of The Flowering Plants Of Nepal. Trustees of British Museum (Natural History), London. Vol. II. 220 pp.

Hara, H., Chater, O.A., Williams, L.H.J. (1982) - An Enumeration Of The Flowering Plants Of Nepal Trustees of British Museum (Natural History), London. Vol. III. 226 pp.

Hayden, W.J.; Haskins, M.L.; Johnson, M.F. and J. M. Cardner - Flora of Richmond National Battlefield Park, Virginia. Castanea 54:87-104.

Heinen, J.T. and Yonzon P.B. (1994).'A Review of Conservation Issues and Programs in Nepal: From a Single Species Focus Towards Biodiversity Protection', Mountain Research and Development, Vol. 14, No. 1, 1994, pp. 61-76.

Inskipp, C and Inskipp, T. (1991) - A guide to the Birds of Nepal. Smithsonian Institution Press, Washington, D.C. 400 pp.

Inskipp, C. (1989) - A popular guide to the birds and mammals of the Annapurna Conservation Area. ACAP, Ktm. 54pp.

Inskipp, C. and Inskipp, T. (1991) - A guide to the birds of Nepal. Second ed. Smithsonian Institution Press, Washington, D.C. 352 p.

Iwatsuki, K. (1988) - An Enumeration of the Pteridophytes of Nepal. P. 231-339 in: H. Ohba and S.B. Malla, eds. The Himalayan Plants. Vol. 1. University of Tokyo Press, Tokyo.

Jackson, R. (1990) - Threatened wildlife, Crop and livestock depredation and grazing in the Makalu. Working paper publication series. Report 12. 75pp.

Jackson, R.; Nepali, H.S. and Sherpa A.R. (1990) - Aspects of wildlife protection and utilization in the Makalu -Barun Conservation Area. Makalu-Barun Conservation Project and Woodland Mountain Institute. 50pp.+Appendix.

Joshi, J. (1987-89) - Vegetation identification, Description and Analysis of a Temperate Forest in the Annapurna Conservation Area. A Project Paper Submitted for the Partial Fulfillment of B. Sc. Forestry.

Koeln, G.T.; Konrad, S. and Muchoney, D. (1991) - Generating information for fish and wildlife management: Summary from the private sector. Transactions of the 56th Wildlife and Natural Resources Conference: 113-117.

Krishnan, M. (1972) - An Ecological Survey of the Larger Mammals of Peninsular India. Journal of Bombay Natural History Society. Vol 69 (1) 26-54.

Leviton, A.E.; Myers, S. and Swan, L.W. (1956) - Zoological Results of the California Himalayan Expedition to Makalu, Eastern Nepal. I. Amphibian and Reptiles. Occassional Papers of the Natural History Museum of Standford University. 14pp.

Lowrence, G. H. M. (1967) - Taxonomy of Vascular Plants. Oxford and IBH Publishing Co. Pvt. Ltd. 823 pp.

MacDonald, D. (ed.) (1984) - The Encyclopedia of Mammals. Facts on file Publications, New York. 879pp. + appendix.

Majupuria, T. C. (1984-85) - Nepal Nature's Paradise. White Lotus Co. Ltd. Bangkok, Thailand. 476 pp.

Majupuria, T.C. (1981-1982) - Mammals. In: Majupuria T.C. (Ed.) Wild is beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 329-380 pp.

Majupuria, T.C. (1981-1982) - Reptiles. In: Majupuria T.C. (Ed.) Wild is beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 147-176 pp.

Malla, S. B.; Shrestha, A. B. et al (1976) - Flora of Langtang and Cross Section Vegetation Survey (Central Zone). Depart of Medicinal Plants, HMG, Nepal. 169 pp.

Malla, Y.K. (1982) - Amphibians. In: Majupuria T.C. (Ed.) Wild is Beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 137-141pp.

Miller J.M. (1987) - Yaks and Grasses: Pastoralism in the Himalayan Countries of Nepal and Bhutan and Strategies for Sustained Development. Presented in Partiaal fulfillment of the requirements for the Master of Forestry, University of Montana. 109pp.

Mitchell, R.M. (1979) - The Scuirid Rodents (Rodentia Scuridae) of Nepal. Journal of Asian Ecology 1:21-28.

Murphy, D. (1990) - Conservation biology and the scientific method. Conservation Biology. 4:203-204.

Nanhoe, M.R. & Ouboter, P.E. (1987)-The distribution of reptiles and amphibians in the Annapurna Dhaulagiri region (Nepal). Zoologische Verhangelingen, Leidon. 104pp.

Nelson, J.R. (1987) - Rare plant surveys: techniques for impact assessment. P. 159-166 in: T.S. Ellas, ed. Conservation and management of rare and endangered plants. California Native Plant Society, Sacramento.

Nowak, R.M. (1991) - Walker's mammals of the world. Fifth ed. 2 Volumes. Johns Hopkins University Press. Baltimore. 1629p.

Oli, M.K. (1989) - Ecology and Conservation of the Snow leopard in the Annapurna Conservation Area, Nepal. Proposal.

Polunin, O. and Stainton, A. (1984) - Flowers Of The Himalaya. Oxford University press. 580 pp +128 pl.

Prater, S.H. (1990) - The Book of Indian Mammals. Bombay Natural History Society. Oxford University Press. 324pp.

Risk, A.C. (1991) - Mosses of Rowan County. Kentucky. Castanea 56:181-192.

Schaller, G.B. (1989) - Mountain Monarchs, Wild sheep and Goats of Himalaya. The University of Chicago Press. Chicago. 424pp.

Shah, K.B. (1991)-An Introduction to the Mammals and Mammalogy of Nepal with reference to their collection Preservation and study techniques'. Unpub. Paper presented at the training on study, collection and preservation of Natural History of Nepal. 8pp. + checklist.

Shah, K.B. (1991) - An Introduction to the Amphibians and Reptiles of Nepal and Methods for their collection and preservation. Unpub. paper presented at training on study, collection and preservation of Natural History of Nepal. 8pp.+ checklist.

Shah, K.B. and Giri, M. K. (1991) - Habitat and Distribution of some Reptiles in Arun Basin, Eastern Nepal. Journal of Natural History Museum 12:(1-4), 61-70.

Shah, K. B. and Giri, M.K. (1992) - Some Amphibians and their local uses in Arun Basin. Journal of Natural History Museum. 13:(1-4), 9-17.

Sherpa M. N. and Oli, M. K. (1988) - Report on Nar Phu valley wildlife Habitat Survey. Unpublished report submitted to World Wildlife Fund and The King Mahendra Trust for Nature Conservation. 32pg. +Appendix.

Shrestha, K. (1984) - Grasses and Sedges - Their Ecology, Distribution and Economic Uses in Manang-Mustang region. JNHM, Vol. - 8, Nos. 1-4, P. 41-54.

Shrestha, K. (1985) - *Cordyceps nutans* Pat. from Lato-manang. JNHM, Vol. 9, Nos. 1-4, P. 111-114.

Shrestha C. S. and Majupuria T.C. (1981-1982). Rats and Mice. In: Majupuria T.C. (Ed.) Wild is beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 381-387 pp.

Shrestha, K.M., Richards, C., Gurung, M.K. and Ale S. 1992. Livestock Depredation in several villages of East Kaski district, Annapurna Conservation Area: A Rural Appraisal. Draft Unpub. Report 79pp.

Shrestha, R.L. and Shah K.B. (2041 B.S) - Nepal Ka Sarpaharu. Prakritik Bigyan Sangrahalaya. Swoyambhu. 84pp.

Shrestha, T. B. (1974) - Gymnosperms of Nepal. Cahiers Nepalais Documets No. 3, Paris.

Shrestha, T. B. (1982) - Ecology and Vegetation of North West Nepal (Karnali Region). Royal Nepal Acadamy. 121 pp.

Shrestha, T. B. (1993) - Endemic Plants Of ACA. Privately circulated.

Shrestha, T.K. (1981) - Wildlife of Nepal. Curriculum Development Centre, T.U., Kathmandu, Nepal. 734pp.

Smith, M.A. (1931) - The Fauna of British India, including Ceylon and Burma. Reptilia and amphibia. Vol.I. Loricata. Testudinea, London. 185pp.

Smith, M.A. (1935) - The Fauna of British India, including Ceylon and Burma. Reptilia and amphibia. Vol.2. Sauria, London. 440pp.

Smith, M.A. (1943) - The Fauna of British India, Ceylon and Burma including whole of the Indo-Chinese sub region, reptilia and Amphibia. Vol 3. Serpentes, London. 583pp.

Smith, M.A. (1951) - On collection of Amphibians and Reptiles from Nepal. Ann. Mag. Nat. Hist. 12 (4): 726 - 728.

Smith, M.A. and Battersby, J.G. (1953) - On a collection of Amphibians and Reptiles from Nepal. Ann. Mag. Nat. Hist. 12 (6):702-704 (unseen).

Stainton, J. D. A. (1972) - Forest Of Nepal. John Murray. 181 pp.

Stainton, A. (1988) - Flowers Of The Himalaya, A Supplement. Oxford University Press. 86 pp +128 pl.

Swan, I. and Leviton, A.F. (1962) - The herpetology of Nepal. Proc. Cal. Acad. Sci. 32:103-147.

The Nature Conservancy (1988) - Natural Heritage Program operations manual. The Nature Conservancy, Arlington, VA.

The Nature Conservancy (1992) - Biological and Conservation Data system computer manual. The Nature Conservancy, Arlington,VA.

Welch, K.R.G. (1988) - Snakes of the Orient. A Checklist. Krieger Publishing Co. Malabar Flerid. 183pp.

Whitakar, R. (1978) - Common Indian Snakes, A field guide. The Macmillan Company of India Ltd. 84pp.

Wilson, D. E. and Reeder, D. M. (eds.) (1993) - Mammal species of the world, a taxonomic and geographic reference. Second ed. Smithsonian Institution, Washington, D.C. 1206p.

Yadav, U.K.R.; Jha, P.K.; Behan, J. and Zobel D.B. (1987) - A practical Manual for Ecology. Ratna Book Distributors, Bag Bazar, Kathmandu. 149pg.

Yonzon P. B. (1981-1982). Barking deer *Muntiacus muntjak*. In: Majupuria T.C. (Ed.) Wild is beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 453-455 pp.

Yonzon P.B.and Lelliott A.D. (1981-1982). Pheasants. In: Majupuria T.C. (Ed.) Wild is beautiful. Introduction to fauna and wildlife of Nepal. S. Devi, India. 315-321 pp.

Zonneveld, J. J.; Amatya, D. B. et al (1986) - Land Resource Mapping Project, Land Utilization Report. Kenting Earth Sciences Limited. 112pp.