

Conservation Area Series, 36

Vertebrate Fauna of
**Kangerghati, Guru Ghasidas and
Sanjay National Parks**
(Madhya Pradesh and Chhatisgarh)



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Vertebrate Fauna of
**KANGERGHATI, GURU GHASIDAS AND
SANJAY NATIONAL PARKS**
(Madhya Pradesh and Chhatisgarh)

Edited by the Director, Zoological Survey of India, Kolkata



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Kolkata**

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VERTEBRATE FAUNA OF KANGERGHATI, GURU GHASIDAS AND SANJAY NATIONAL PARKS AN OVERVIEW

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INTRODUCTION

The rapid growth of human and livestock populations coupled with urbanization and industrialization in the 20th century and consequent pressure of land hunger and development have taken an increasingly heavy toll of the country's wilderness. Conservation measures to mitigate the impacts of these pressures, however have largely been slow and inadequate (Rodgers *et al.*, 2002). Process of setting up of Wildlife Protected Areas (PAs) was started some fifty years ago.

The newly formed state Chhattisgarh which came into existence on 1st November, 2000 is one of the small State in India which was actually the eastern part of the state Madhya Pradesh. The state is privileged to have the oldest reserve forest in the country and thus, has a long history of forest management as well as tribal and cultural heritage. The state covers an area of 1,35,084 sq km of which 2929.50 sq km offered to National Parks and 3419.56 sq km to sanctuaries. All together it has got three National Parks of which largest is the Guru Ghasidas National Park and the smallest is Kangerghati National Park (Fig. 1), which cover 1471.00 sq km and 200 sq km areas respectively.

The India is classified into ten broad biogeographic zones (Rodgers *et al.*, 2002) in which the state Chhattisgarh is situated under Deccan Peninsula. The Deccan Peninsula is again subdivided into five sub-zones like Central highlands, Chhota-Nagpur, Eastern highlands, Central Plateau and Deccan south. Among those subzones the Sanjay National Park falls under Central highlands, western part of Guru Ghasidas National Park is situated under Central highlands and eastern part is under Chhotanagpur plateau and the Kangerghati National Park falls under Eastern highlands. The present report is restricted to the Kangerghati and Guru Ghasi Das National Parks of Chhattisgarh and Sanjay National Park of M.P.

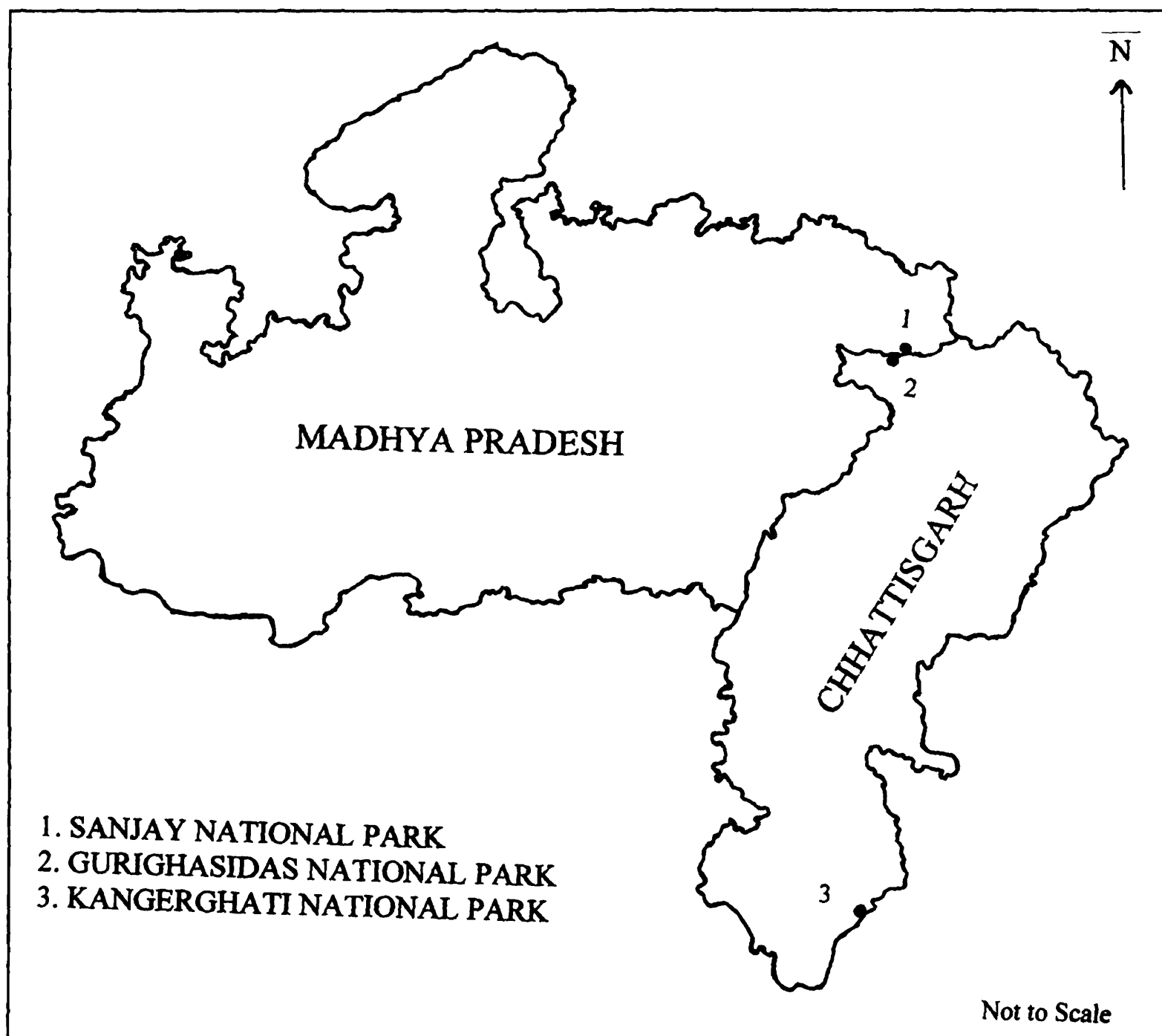


Fig. 1. Map of Madhya Pradesh and Chhattisgarh.

PHYSIOGRAPHY

The plateau part of the Deccan Peninsula is the largest and covers an area of 7,00,000 sq km, slopes eastwards and northwards. The topography is characterized by rounded hills and rolling plains. The plateau is bounded on the east and west by the Ghats, escarpments that meet at the plateau's southern tip. The Deccan's average altitude is about 600 m, sloping generally eastward.

The Deccan Peninsula cannot be said to represent any particular type of ecosystem existing in the world today but is a conglomeration of different types of ecosystems. The areas representing ecosystems like dry-deciduous forests, moist-deciduous forests, degraded shrub lands, dry evergreen forests or thorn shrub and tiny areas of semi evergreen forests, besides certain wetland ecosystems and freshwater bodies.

The central part of the state Chhattisgarh is almost plain but northern and southern are hilly terrain. Makla-Satpura hill ranges cover the northern part of the state in which high elevated plains of Pandrapat and Mainpat are most significant. The Satpura range extends from west to east and average height is no less than 600 m. Chhattisgarh state is situated in the eastern end of the Satpura Range. Guru Ghasidas National Park is situated in the Korea district which is a great tableland of numerous hills and plateau and the important physiographic feature is *pat* which is a local word means tableland. Domarpat is a tableland of Sanjay National Park situated in Sidhi district.

The main river of the state is Indravati in the south which flows across the centre of Bastar district with a tortuous course and negotiating a distance of 389 km within the state and ultimately discharges itself in the river Godavari. The main rivers of the north are Gopad, Banas and Rihand. Those rivers and their tributaries are flowing northwardly to join Ganga drainage system. River Banas is flowing through the western boundary of the Sidhi district. The Gopad River is originated in the hills of Surguja district of Chhattisgarh, flows almost west but turns after being joined by the Lodhar River from the west. One of the main tributary of Lodhar is Mohan river which rises in the northwest and joins Lodhar near Deosar. The Rihand river flows through the big open plains of southeastern part. The other main rivers are Sabri, Sibnath, Sandur, Pairi, Mahanadi, Apra, Maniyari, Hansdeo, Bango, Ib and Mand.

In total, approximately 1,33,084 sq km area is completely rocky and the main agricultural areas are river basins. The main ores of the district are iron, tin, buxaite, silimelite, china-clay, gold, coal and limestone.

The state lies between 17° 46' to 24° 5' N and 80°15' to 84° 20' E and is surrounded by Uttar Pradesh and Madhya Pradesh in the north, Jharkhand in the northeast, Orissa in the east, Andhra Pradesh in south and southwest and Maharashtra and Madhya Pradesh in west. All the three National Parks are belonging to the Deccan Peninsular biogeographic

zone having hilly undulating forested tracts. The whole area is covered with deciduous forests either dry or moist as well as thorn forests. The floral and faunal composition is unique with endemic, rare and endangered species.

PARK DETAILS

Kangerghati National Park

The Kangerghati National Park (Fig. 2) is divided into two ranges, Kutomsar and Koleng, covering an area of about 200 sq km. The river Kanger along with some rivulets flows through the National Park. There are some caves with stalactite and stalagmite columns like Kotamsar, Kailash, Dandak, Devgiri which are unique in structure as well as composition. Among the four caves the Kutomsar cave faces much anthropogenic pressure due to eco-tourism almost throughout the year except in the monsoon months.

The Kangerghati National Park is situated at the southern part of the Bastar district, 26 km south of Jagdalpur. The Parks are paradise for the nature lovers. The moist peninsular sal forests and the south Indian tropical moist deciduous forests are seen in their finest form in Kangerghati National Park. It is situated in a transition zone where southern limit of sal forests and northern limit of teak forests overlap, hence both sal and teak are seen together in this valley.

In July 1982, the reserve forest of Kanger valley was declared as National Park, not only for the protection and conservation of rich floral and faunal diversity but also for its pristine ecology including the splendid waterfalls and astonishing limestone caves and perhaps the Kangerghati is the last pocket of virgin forest still left in the peninsular region (Krishna 1993). The ancient and verdant forest of Kangerghati has bagged recommendation to be declared as 'Biosphere Reserve' The Park extends from famous Tirathgarh waterfall in the west to Kolab river in the east, which separates the Park from the state of Orissa. The Kanger river, on which the name of the Park established runs from west to east almost bisecting the Park into two halves. The upper one is Koleng Range and the lower is Kotamsar Range. The area of the Park is 200 sq km which is approximately 6 km in width and the average length is 34 km. The entire Park constitutes core area and there is no buffer zone. As many as 50 villages are located at the peripheral region of the Park and only one, the Kotamsar village lies within the core area of the Park.

Soil of the Park is red gravelly type, slightly interspersed with shallow black soil and red and yellow soil. Rocks are chiefly of sedimentary type. Altitude of the National Park varies from 38m to 781 m. Fluctuation of temperature in winter is 3° to 30°C and the same in summer is 20° to 40°C. The annual rainfall is 1520 mm in average. It is a moist mixed-deciduous forest, chiefly dominated by Sal, Teak and Bamboo.

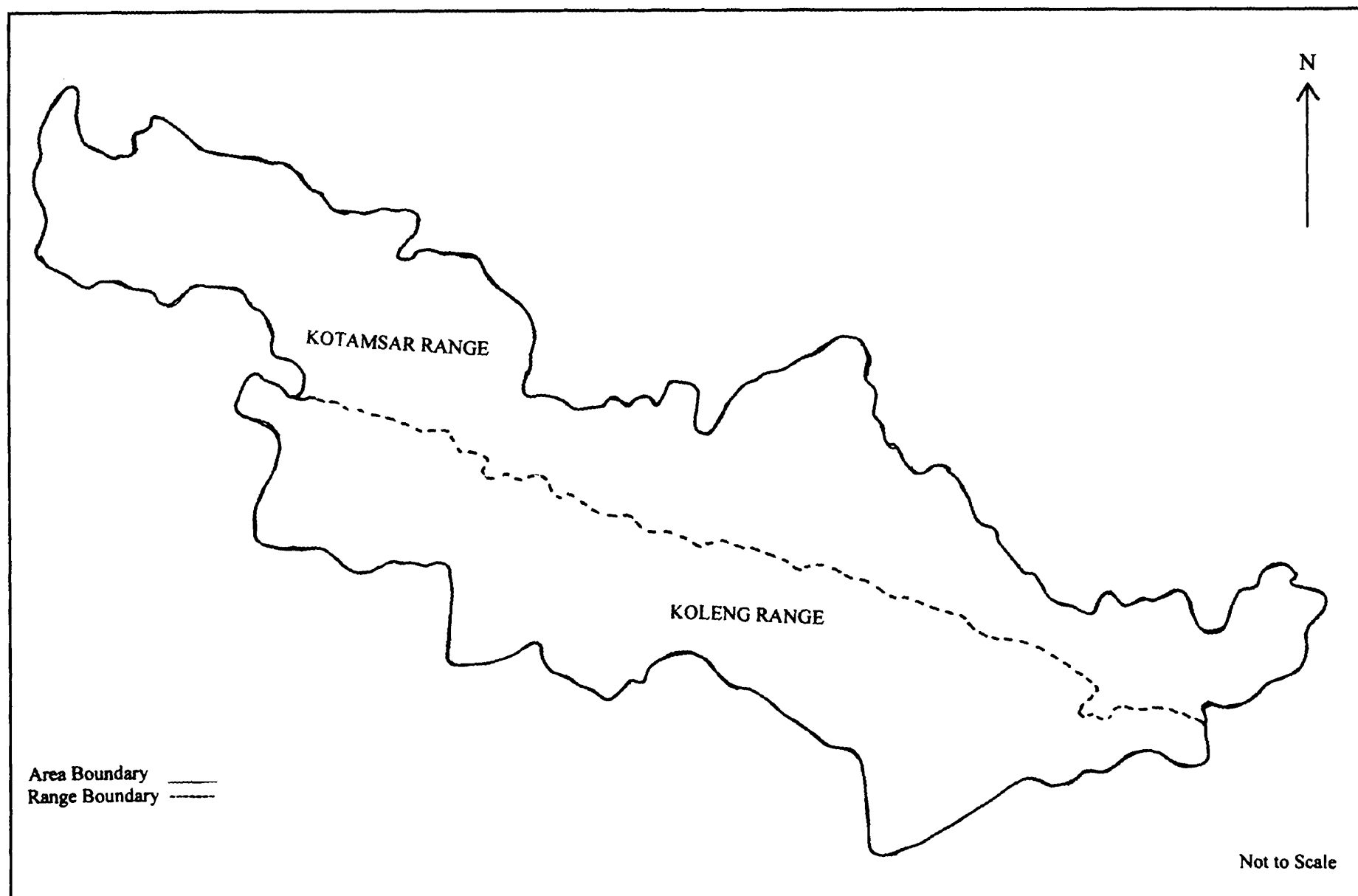


Fig. 2. Map of Kangerghati National Park.

There are some limestone caves which are very unique to this Park. The underground limestone caves are located at 42km south of Jagdalpur. These underground caves depict excellent features of Karst topography. The development of mega size stalactites vertically descending from roof in the form of chandeliers are glitter on light focus. The length of underground caves vary from 300 m to more than 1 km with a width varying from 3 m to even more than 5 m at a few places. Sometimes the width of the caves increase even up to 20m and the bases of the caves are marked by underground perennial channel which may contains water up to 30 cm in depth. The water is very clean and unpolluted as it seeps from rock fractures. There may be some subterranean channel in the limestone deposition which may form the passage for water and aquatic animals inside the caves.

Four caves so far discovered in the Park area viz. Kotamsar, Kailash, Devgiri and Dandak. The Kotamsar cave was discovered in the year 1900 and was surveyed by Dr. Shankar Tiwari in the year 1951. The hanging limestone structure from the roof is called as stalactite and another deposited on the floor is called as stalagmite. The caves of Kotamsar area are developed in bedded limestone of stromatolitic nature, belonging to the Jagdalpur formation of Indravati group of upper proterozoic age. The basal part of the limestone is argillaceous and flaggy in nature named as Kanger limestone after the Kanger river, which drains these formations and joins Sabri river. The entry point of the cave is very narrow i.e. less than 1 m in diameter up to a vertical depth of 15 m. The Kailash cave was discovered by the Park staff on 18th March in the year 1993 at the hill top of compartment No. 76, Milkulwada Beat of Koleng Range. The cave is 200m long and its depth varies from 35 to 50 m. A big 'Court Hall' inside the cave has its interior adorned with several attractive formations of limestone dripstone. The cave offers, at one point, a view alike that of Kailash Parbat and there is a stalactite and stalagmite structure which looks like an idol of Lord Mahadev (Krishna, 1993). Another point inside the cave produces musical sound when a limestone structure is gently tapped. There is a balcony like structure and a huge hall measuring approximately, 40 m long, 30 m wide and 8 m high called as Darbar hall and is virtually adorned with many chandeliers of different sizes and shapes. At the end, the cave bifurcates and the right portion is fairly long and the end is called as 'Temple Point' Approximately 15 m left from bifurcation there is unique structure of stalagmite and stalactite which looks like crocodile. Another cave is Dandak cave, which was discovered in 1995, is 200 m long and 15 to 20 m deep. The cave has two compartments, while entering, the first one discloses a view of a big 'Assembly Hall' containing huge pristine dripstone structures. To enter the second compartment, one has to almost crawl in a narrow well in deep darkness. After the narrow well like zone, a beautiful stalactite and stalagmite formations appear. On 25th February 1993 another cave was suddenly discovered in between Kanger River and lower Kanger valley road named as Devgiri cave. The cave mouth is sufficiently wide and after few meters, it becomes narrower and there is a 5-6 m long structure resembling an elephant head, approximately 30 m from the entrance. To proceed further forward one has to crawl as the crystalline

structures almost touches the ground. Just after this point a giant Shiva Linga measuring 2.25 m high and 3.00 m girth is really an unique creation of nature.

In this small Park there are large to small water falls exist of which Tirathgarh fall is large one and Kanger dhara is smaller one. Both the falls created on the running water course of Kanger River. Thirathgarh fall is more than 100 m in height and Kangerdhara is a mini water fall which drop down to approximately 20 m and then flows over the stones and rocks.

There is a large lake of approximately 4 hectare in area named 'Bhainsa Dhara' The lake is fed by water from Kanger River and ultimately merges with Kolab or Sabri River. The lake is surrounded by beautiful natural bamboo forests.

The Park presents a good example of man-animal harmony where animal and tribal people co-exist in peace in the tranquil life of the forest. But in the years 2003 and 2004 there were two incidences of man-animal conflict (Chakraborty and Kar 2005) one in Kotamsar village situated inside the Park and another in Maghipal village, just outside the Park. Both the incidences were caused by the leopard.

The undivided Sanjay National Park was established as a sanctuary in 1975 with an extent of 365 sq km. It was previously known as the Dubari sanctuary and later in 1981, it was enlarged at about 1938 sq km and declared as a National Park of previous Madhya Pradesh. The river Dubari flows through this National Park. After the establishment of the Chhattisgarh state the Park was divided into two parts and the northern portion being a part of Madhya Pradesh retains its original name and the southern portion named as Guru Ghasidas National Park which comes under the new state Chhattisgarh.

Guru Ghasi Das National Park

Guru Ghasi Das National Park (Fig. 3) is situated in the extreme NW district, the Korea of the state Chhattisgarh. This National Park was renamed and reestablished on 7th August 2001. It is divided into five ranges viz. Kamerji, Rihand, Sonhat, Ramgarh and Janakpur. This hilly terrain is covered with deciduous forest and interspersed with rivers and ravines. The rivers like Hasdo, Gopad, Baranga, are originated from the hills of this National Park which is also the catchment area of the rivers Neur, Bijadthur, Banas, Rehand and many more rivers and rivulets. The main rivers of the National Park are perennial but there are many more rivulets like Jamsodh nallah, Bakragachar nallah, Magardaha nallah, Pairidhar nallah, Aicha nallah, Chingajharia nallah, Barhni nallah, Vatti nallah, Udhenidhar nallah, Machrikharka nallah, Kekra nallah, Anji nallah, which are seasonal and dry up during summer. The river Gopad is originated from Amapani and the originating place of Hasdo is approximately 6 km from here. The total area of the Park is 1471 sq km and average altitude reported is 486 mts. Annual rainfall varies from 902 to 1970 mm and the mean maximum and minimum temperatures are 31.8°C and 16.2°C respectively.

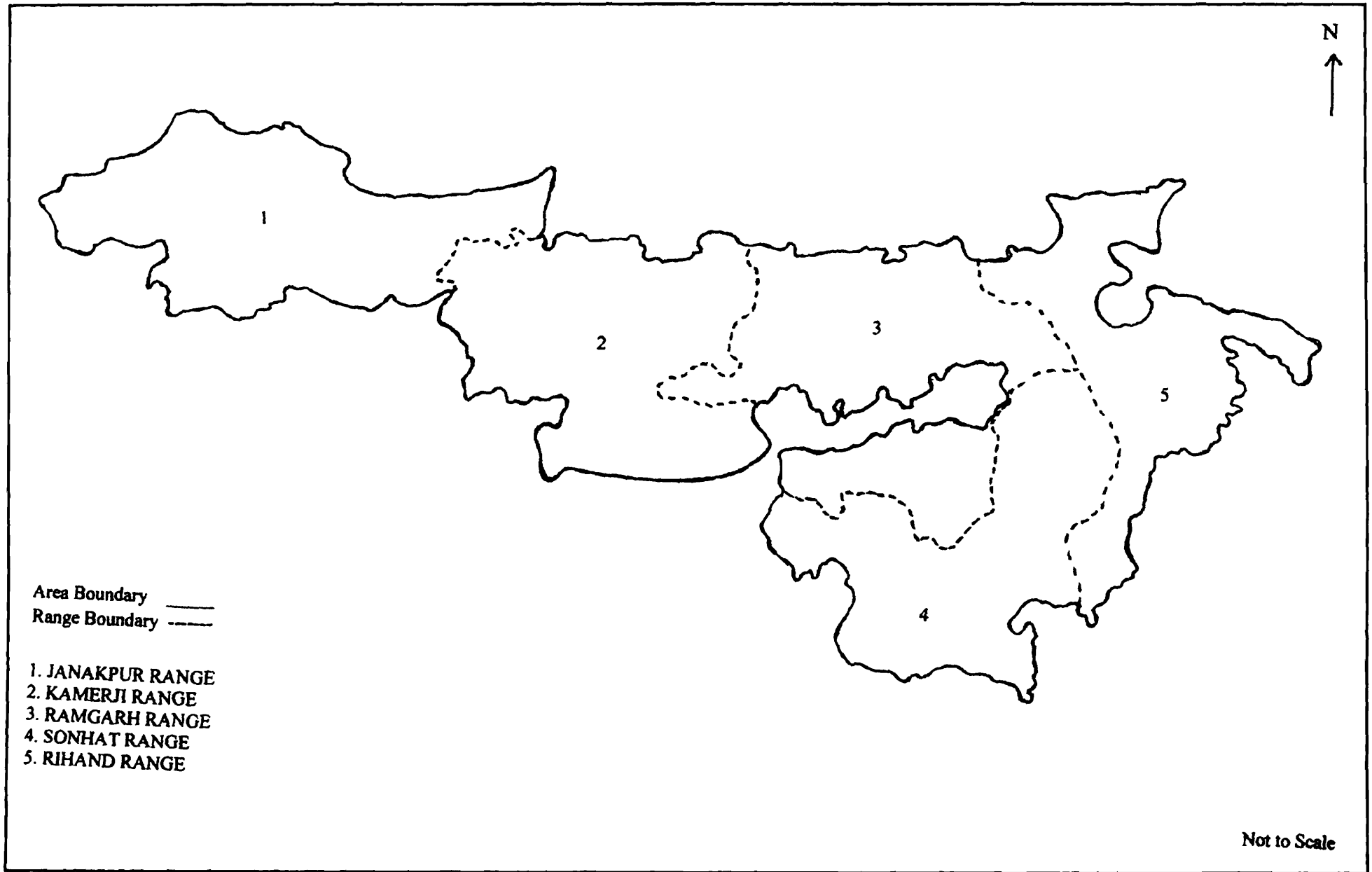


Fig. 3. Map of Gurughasidas National Park.

It is the largest National Park of the state which is attached with the boundaries of Madhya Pradesh, Uttar Pradesh and Jharkhand. Due to its large area and favourable ecological condition, it provides shelter to a considerable number of animals as well as provides passage for the migrating animals also. For a long time there was no report of elephant, either from Madhya Pradesh or from Chhattisgarh but very recently it was observed that small herds of elephants entering into the Guru Ghasi Das National Park from the adjacent Palamau range, and using the Park as their normal corridor. The grazing cattle is a very common factor in this National Park and even they rest at night inside the Park.

The Sanjay National Park

The Sanjay National Park (Fig. 4) is situated in the Sidhi district of Madhya Pradesh at the northeast corner of the state. The total area of the National Park is 466.88 sq km. The

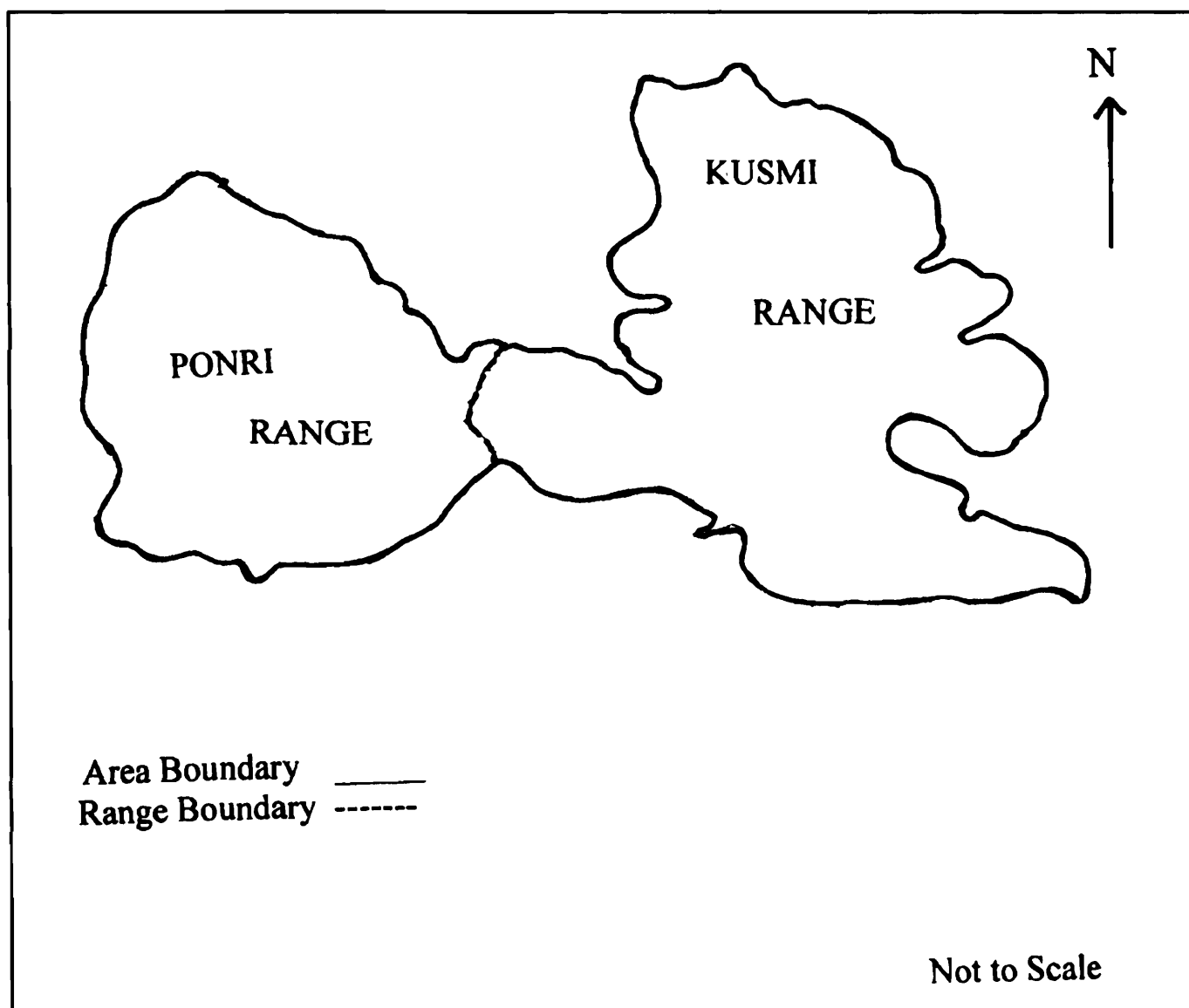


Fig. 4. Map of Sanjay National Park.

district is almost entirely lies to the south of the southern scrap of the Kaimur range which also makes the boundary in part. The river Son is flowing almost parallel to the scrap of the Kaimur, in the north of the district. The Park is divisible into two ranges viz., Ponri and Kusmi. The hills and forests are predominant to the south of the Son River as well as in the Park itself. The hills gradually rise in parallel ranges from west to east and have numerous spurs. The main rivers of the Park are Gopad, Banas, Rihand and their tributaries which flow northwardly to join Ganga drainage system. River Banas is flowing through the western boundary of the district. The Gopad River is originated in the hills of Korea district of Chhattisgarh, joined by the Lodhar River from the west. One of the main tributary of the river is Mohan which rises in the northwest and joins Lodhar near Deosar. River Rihand flows through the big open plains of southeastern part. The river Neur flows through the border of Korea district of Chhattisgarh and Sidhi district of Madhya Pradesh. The main river of the Ponri range is Mohan. The jungle is of dry deciduous type with bamboo and sal. Probably the area covered by bamboo is much more than that of Sal tree. There is a flat plateau in the forest known as Domarpat. In the Kusmi range there is a small *kund* known as Ramdaha kund which is surrounded by hills and retains water throughout the year.

VEGETATION

The vegetation type of the Kangerghati National Park is of moist-deciduous type, dominated by Sal, Teak and Bamboo and the same of Sanjay and Guru Ghasidas National Parks are mostly mixed-deciduous type dominated by sal but in certain parts bamboo also.

The main plants of Kangerghati National Park are Teak (*Tectona grandis*), Sal (*Shorea robusta*), Sirsa (*Dalbergia latifolia*), Bijasal (*Pterocarpus marsupium*), Kusum (*Schleichera trifuga*), Palas (*Butea frondosa*), Mahua (*Bassia latifolia*), Tendu (*Diospyros melanoxylon*), Harra (*Terminalia chebula*), Aonla (*Phyllanthus emblica*), Saja (*Terminalia tomentosa*), Kauha (*Terminalia arjuna*), Salai (*Boswellia serrata*), Char (*Buchanania latifolia*), Hangu (*Balanites rexburghli*), Khair (*Acacia catechu*), Semar (*Bombax malabaricum*), Haldu (*Adaina cordifolia*), Imli (*Temeros indica*), Kasai (*Brydilia rotusa*), Lendia (*Legetromia parvifolia*), Korg (*Colistrethos coilics*), Mango (*Magnifera indica*), Dhowra (*Anogysos latifornia*) etc.

The Sanjay and Guru Ghasidas National Parks are characterized by deciduous type of forest, sometimes scrubby forest, often mixed with heavy woody climbers and bamboo. The main plants of the Parks are Sal (*Shorea robusta*), Saja (*Terminalia tomentosa*), Asan (*Khawara sp.*), Tendu (*Diospyros tomentosa*), Bijasal (*Pterocarpus marsupium*), Bamboo (*Dendrocalamus strictus*), Kekar (*Garuga pinnata*), Indian Red wood (*Soymida*

febrifuga), Satin wood (*Chloroxylon swietenia*), Rosewood (*Dalbergia sisso*), Kumar (*Gmelina arborea*), Red cedar or Tun (*Cedrela toona*), Harra (*Terminalia chebula*), Amaltas (*Cassia fistula*), Gangal (*Cochlospermum gossypium*), Kachnar (*Bauhinia variegata*), Palas (*Butea frondosa*), Siris (*Albissia lebbek*), Haldu (*Adina cordifolia*), Kusum (*Schleichera trijuga*), Tinsa (*Ougeinia dalbergioides*), Mango (*Magnifera indica*).

The main shrubs of the Parks are Dhuvi (*Woodfordia floribunda*), Chirouji (*Buchanania latifolia*), Aonla (*Phyllanthus emblica*), Dhamun (*Grewia vestita*), Chind or wild Khajur, *Zizyphus*, *Flueggea*, *Gardenia*, *Carissa*.

The common grass species of the three Parks are Darph (*Cynodon dactylon*), Dhara (*Iseilema laxum*), Kusal (*Pollinia argentea*), Bhabar (*P. eriopoda*), Khaskhas (*Andropogon squarrosus*), Spear-grass (*A. contortus*), Kans (*Saccharum spontaneum*) and the main creepers are Maul (*Bauhinia vahlii*), *Butea superba* etc.

FAUNAL EXPLORATION

Study was carried out during October to March of the years 2003 to 2005. The study was confined only on the vertebrate species of the Parks. Though there is anthropogenic pressure still exists inside the Parks due to eco-tourism, cattle grazing etc., yet vertebrate faunal diversity is not very poor. But if the case is to be considered in terms of population it may be alarming. Though the area of the Kangerghati National Park is seven times less than Guru Ghasidas National Park yet both diversity and population is rather healthy there.

It is believed that the tiger is the Flagship species in those Parks but during the present survey from October 2003 to January 2005, no tiger or pugmark or any other indication of presence of the species in all the three Parks were observed. But as per census report there were 6 tigers in Guru Ghasidas National Park in 2002 and 7 in Kangerghati National Park in 2003 and 17 in Sanjay National Park in 1998. As per the statement of the villagers living just outskirts or inside the Parks, the tiger is now an occasional visitor. It was also reported that in Sanjay National Park, it sometimes visits from Rewa forest division and from Sanjay it was reported to visit Muluknar region of Guru Ghasidas National Park. It was also reported, there was tiger in the Domarpat region of Sanjay National Park during the last lap of the last century. Thus, it is a big question that whether there are viable population of tiger in those National Parks or not, but at the same time Parks may provide good shelter and food for the large beasts. During the present survey it was also realized that there are a good population of leopard in all the three National Parks. The tiger, being the key species, it is urgently required to form a task force for searching of tiger and accounting for its viable population in the Parks.

On the other hand, it is a healthy sign for the Sanjay and Guru Ghasidas National Parks, where elephants are coming and residing there, after a lapse of almost 100 years. During the last century wild elephants were not reported from Madhya Pradesh but they were not uncommon up to the middle of the 19th century in central India (Jerdon 1867, Burton 1951) presently known as Madhya Pradesh and Chhattisgarh. Since 1988, small herds of elephants from Jharkhand and Orissa, instinctively returning to their former habitat and regarded as intruders and ultimately drove back them to their respective states. In October 2003, a herd of eleven elephants were observed in between the northern region of Kotadol and southern Muluknar of Guru Ghasidas National Park just at the side of Neur River. An instance of further migration of wild elephants to the further west was observed on 2nd January 2005 near Ghoka nallah (23° 58' 58.8" N & 82° 02' 6.07" E) in the Kusmi range of Sanjay National Park. The herd was comprised of nine elephants including a cub. It was reported that the herd was staying there for the last one year and gave birth of an individual in the Park itself (Chakraborty and Kar, in press).

There is a new record of Green Pit Viper from Sonhat range of Guru Ghasidas National Park which was not reported earlier from that region. The rivers and rivulets flowing through the National Parks, are the spawning ground of many fishes and resting and feeding ground of migratory water birds. In the Kusmi range, a pair of Merganser, *Mergus merganser* was seen in a pond (23° 59' 37.0" N & 81° 59' 6.78" E) (Chakraborty and Kar, in press) which usually likes to move with fast flowing hill streams during their migratory journey. Another migratory duck, the Garganey (*Anas querquedula*) was observed near Mohan river at Golipahari (23° 54' 34.6" N & 81° 53' 7.67" E) of Ponri range of Sanjay National Park. *Ratufa indica centralis*, The Indian Giant Squirrel was observed in the Kangerghati National Park only.

For identification of the species, either observation method or capture and release method were followed. the present Status (IUCN/CAMP) of individual species is mentioned along with the species list.

Altogether, 387 vertebrate species are identified from the three National Parks of which 62 species of fish, 14 species of amphibia, 46 species of reptile, 198 species of birds and 67 species of mammals are so far been enlisted and there may be many more which are yet to be reported.

Table- A. Groupwise number of species in Sanjay, Guru Ghasidas and Kangerghati National Parks.

Sl. No.	Faunal group	No. of Species	No. of Family	No. of Order
1.	Fish	62	13	5
2.	Amphibia	14	4	1
3.	Reptilia	46	14	3
4.	Bird	198	47	18
5.	Mammal	67	26	10

ABBREVIATIONS USED IN THE TEXT

N.P. - National Park; E- English; H- Hindi, KAN- Kangerghati, GGD- Guru Ghasidas, SAN- Sanjay, FRH- Forest Rest House, CAMP- Conservation Assessment and Management Plan of Biodiversity Conservation Prioritisation Project, CR- Critical, EN- Endangered, VU- Vulnerable, LRnt- Lower Risk near threatened, LRlc- Lower Risk Least concern, DD- Data deficient, LC- Least Concern, HB- Head and Body, TL- Tail, HF- Hind foot, E- Ear, IUCN - International Union for Conservation of Nature and Natural Resources.

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SANJAY NATIONAL PARK



Wild National Bird in Ponri FRH



View near Kanaiha Kund



Ramdaha Kund at Kusmi



Domarpat at Ponri Range



Pugmark of Leopard (Mother and Cub)



Pugmark of Wolf



**Footmark of Elephant at Ghoka Nala,
Kusmi Range**



Footmark of Elephant

GURU GHASIDAS SANJAY NATIONAL PARK

Pond Heron at Ghoka Nala, Kusmi Range



Collection at Mohan River



Entry Gate of National Park



View of National Park



Observation at Neur River



View of Neur River



View of Lodhar River

View of Gopad River





Hoofmarks of Chinkara at Badgaon



Footmarks of Jungle Cat at Rihand Range



Droppings of Nilgai at Kamarji Range



Footmarks of Nilgai at Kamarji Range



Footmark of Sloth Bear at Sonhat Range



Pugmark of Leopard at Rihand Range



Hanuman Langur at Sonhat Range



Resting place of Pangolin at Kamarji Range



Resting place of Sloth Bear at Janakpur Range



Spotted Owlet at Kotadol FRH



Nest of White-backed Vulture near Kekra nallah at Kamarji Range



White-backed Vulture near Kekra nallah at Kamarji Range



Cattle grazing inside the National Park

KANGERGHATI NATIONAL PARK



Main forest road of the Park



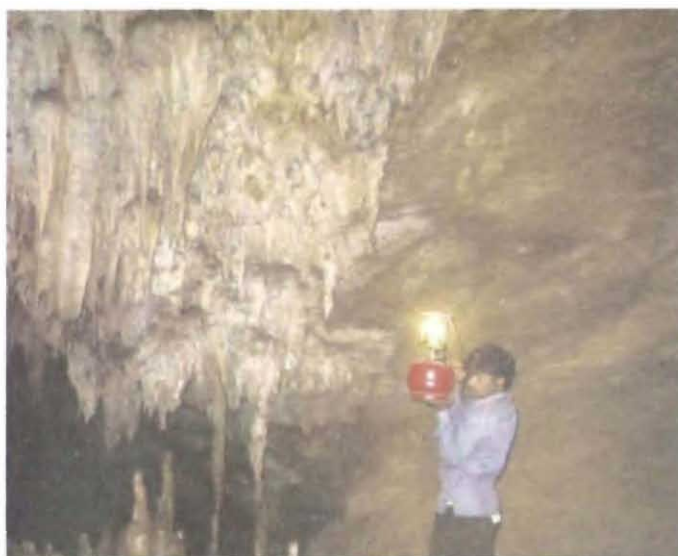
Kangerdhara



Panaromic view of Tirathgarh waterfalls



Interior view of Kotamsar cave



Decorative view of Stalacmite and Stalactite at Kailash cave



Roosting place of *Hipposideros cineraceus* in Kailash cave



Roosting place of *Rhinolophus rouxii* in Dandak cave



Roosting place of *Hipposideros cineraceus* in Kotamsar cave



Pugmark of Leopard near Kotamsar FRH



Pugmark of Leopard Cat



Indian Giant Squirrel, *Ratufa indica centralis*



Leopard victim of Kotamsar village



Resting place of tribals inside the Park.



Unauthorized woodcutter inside the Park



Boselaphus tragocamellus (Pallas)



Sus scrofa Linnaeus



Hyaena hyaena (Linnaeus)



Felis chaus Schreber



Trimeresurus gramineus (Shaw)



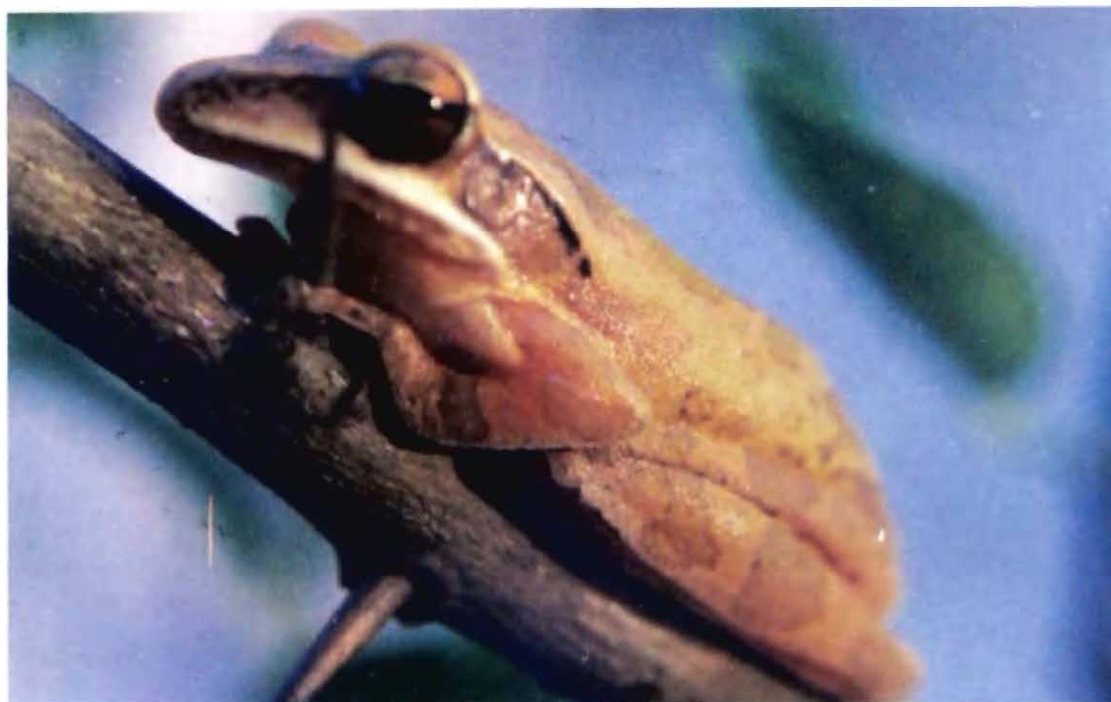
Chamaeleon zeylonicus Laurenti



Naja naja (Linnaeus)



Ophisops leschenaulti (Milne-Edwards)



Polypedates maculatus (Gray)



Uperodon systoma (Schneider)



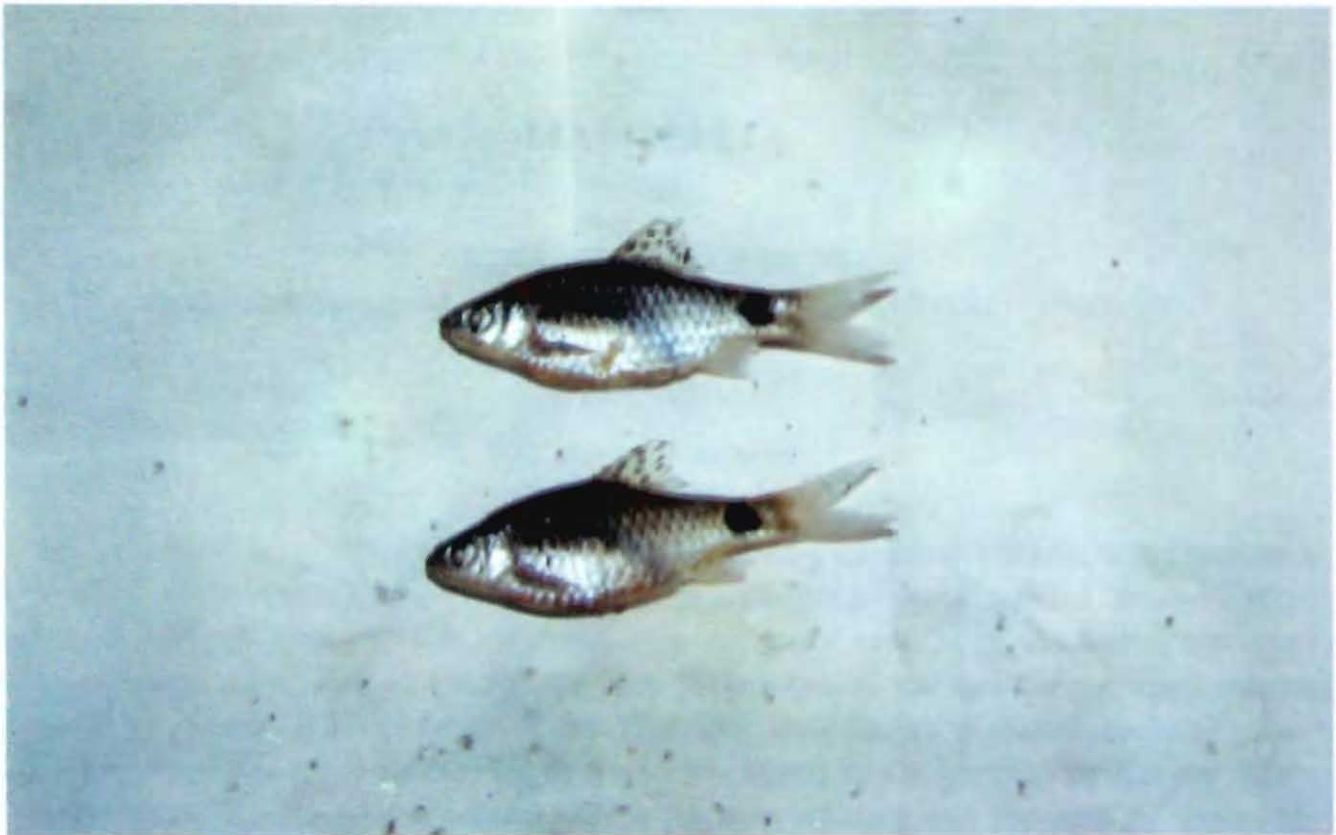
Ramanella variegata Stoliczka



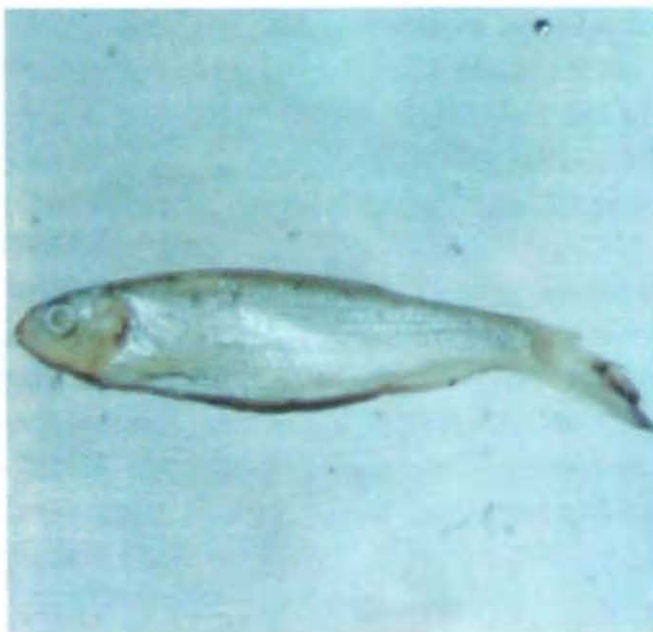
Kaloula taprobanica Parker



Sphaerotheca breviceps (Schneider)



Puntius ticto (Hamilton)



Barilius bendelisis (Hamilton)



Rasbora daniconius (Hamilton)

MAMMALIA

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INTRODUCTION

On 1st November, 2000 the eastern part of old Madhya Pradesh came into account as a new state with three National Parks and ten Sanctuaries as Protected areas. Except Indravati National Park (Ghosh, 1995), there is no detail account of the faunal resources of the Protected areas of Chhattisgarh. Very little work so far has been carried out on mammalian fauna of Kangerghati, Guru Ghasidas and Sanjay National Parks. Panwar (1979) reported about a man-eater tiger (*Panthera tigris*) in Kangerghati or Kanger valley National Park, but during the present survey no trace of tiger was reported by the locals or observed personally. But man-animal conflict between man and leopard (*Panthera pardus*) was also reported during the present survey period (Chakraborty and Kar, 2005). Ranjitsingh (1998) reported the presence of wolf (*Canis lupus pallipes*) in Sanjay National Park. Ramanuj (1931) reported Four-horned antelope about 14 mile away from Ambikapur towards west. Saxena (1996) studied the status of Four-horned Antelope (*Tetracerus quadricornis*) in Sanjay National Park. Dogra (1993) has enlightened on the field of conservation and management in relation to parks and people. Park resources are also mentioned in the management plans (Anon 1996-97 and 2005-2006). Other than these some more workers have enlightened the knowledge on wildlife of Bastar, Surguja and Sidhi districts (Bates *et al.*, 1994, Bharos 1996 a & b, Burton, 1943, Daniel and Grubh, 1966, Divekar, 1977, Divekar and Bhusan, 1998, Ghosh, 1995, Gupta *et al.*, 1985, Krishnan, 1971, 1972 a & b, McCann, 1928, Noronha, 1952, 1954, Sahgal & Divekar, 1987, Sharma and Sai, 1987). The mammalian faunal diversity in Guru Ghasidas and Sanjay National Parks is almost same. However, it differs little from Kangerghati National Park. It may be due to some differences in physiographical conditions in between the northern and southern Chhattisgarh. As Guru Ghasidas and Sanjay National Parks are adjacent, the faunal diversity may be almost same in both the Parks. The cave animals of Kangerghati National Park has added more importance to the faunal diversity of this smallest National Park.

List of Species with availability and Status :

Sl. No.	Species Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
	Order INSECTIVORA				
	Family SORICIDAE				
1.	<i>Suncus etruscus</i> (Savi)	+	-	-	LC
2.	<i>S. murinus</i> (Linnaeus)	+	+	+	LR/lc
3.	<i>S. stoliczkanus</i> (Anderson)	+	-	-	LR/lc
	Order SCANDENTIA				
	Family TUPAIIDAE				
4.	<i>Anathana ellioti</i> (Waterhouse)	-	+	-	LR/nt
	Order CHIROPTERA				
	Suborder MEGACHIROPTERA				
	Family PTEROPODIDAE				
5.	<i>Cynopterus sphinx</i> (Vahl)	+	+	+	LR/lc
6.	<i>Rousettus leschenaulti</i> (Desmarest)	-	-	+	LR/lc
7.	<i>Pteropus giganteus</i> (Brünnich)	+	+	-	LR/lc
	Suborder MICROCHIROPTERA				
	Family RHINOPOMATIDAE				
8.	<i>Rhinopoma hardwickei</i> Gray	-	+	-	LC
9.	<i>R. microphyllum</i> (Brünnich)	+	-	-	LC
	Family EMBALLONURIDAE				
10.	<i>Taphozous longimanus</i> Hardwicke	+	+	+	LR/lc
11.	<i>T. nudiventris</i> Cretzschmar	+	+	-	LC
	Family MEGADERMATIDAE				
12.	<i>Megaderma lyra</i> Geoffroy	+	-	-	LR/lc
	Family RHINOLOPHIDAE				
13.	<i>Rhinolophus lepidus</i> Blyth	-	+	+	LR/lc
14.	<i>R. luctus</i> Temminck	+	-	-	LR/lc
15.	<i>R. rouxii</i> Temminck	+	-	-	LR/lc

Sl. No.	Species Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
16.	<i>Hipposideros cineraceus</i> Blyth	+	-	-	LR/lc
17.	<i>H. lankadiva</i> Kelaart	-	+	-	LC
	Family VESPERTILIONIDAE				
18.	<i>Pipistrellus ceylonicus</i> (Kelaart)	-	+	+	LR/lc
19.	<i>P. coromandra</i> (Gray)	+	+	+	LR/lc
20.	<i>P. dormeri</i> (Dobson)	+	-	-	
21.	<i>P. tenuis</i> (Temminck)	+	+	+	LR/lc
22.	<i>Scotophilus heathi</i> (Horsfield)	-	-	+	LR/lc
23.	<i>S. kuhlii</i> Leach	-	+	+	LR/lc
	Order PRIMATES				
	Family CERCOPITHECIDAE				
24.	<i>Macaca mulatta</i> (Zimmermann)	+	+	+	LR/nt
25.	<i>Semnopithecus entellus</i> (Dufresne)	+	+	+	LR/nt
	Order CARNIVORA				
	Family CANIDAE				
26.	<i>Canis aureus</i> Linnaeus	+	+	+	LC
27.	<i>C. lupus</i> Linnaeus	+	+	+	LC
28.	<i>Vulpes bengalensis</i> (Shaw)	+	+	+	LC
29.	<i>Cuon alpinus</i> (Pallas)	+	+	+	EN
	Family FELIDAE				
30.	<i>Felis chaus</i> Schreber	+	+	+	LC
31.	<i>Prionailurus bengalensis</i> (Kerr)	+	+	+	LC
32.	<i>Panthera tigris</i> (Linnaeus)	?	?	?	EN
33.	<i>P. pardus</i> (Linnaeus)	+	+	+	LC
	Family HERPESTIDAE				
34.	<i>Herpestes edwardsii</i> (E. Geoffroy Saint-Hilaire)	+	+	+	LR/lc

Sl. No.	Species Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
35.	<i>H. javanicus</i> (E. Geoffroy Saint-Hilaire) Family HYAENIDAE	+	+	+	LR/lc
36.	<i>Hyaena hyaena</i> (Linnaeus) Family MUSTELIDAE	+	+	+	LR/nt
37.	<i>Lutrogale perspicillata</i> (I. Geoffroy Saint-Hilaire)	+	+	-	VU
38.	<i>Mellivora capensis</i> (Schreber) Family URSIDAE	+	+	+	LR/lc
39.	<i>Melursus ursinus</i> (Shaw) Family VIVERRIDAE	+	+	+	VU
40.	<i>Paradoxurus hermaphroditus</i> (Pallas)	+	+	+	LR/lc
41.	<i>Viverricula indica</i> (Desmarest) Order PROBOSCIDEA Family ELEPHANTIDAE	+	+	+	LR/lc
42.	<i>Elephas maximus</i> Linnaeus Order ARTIODACTYLA Family SUIDAE	-	+	+	EN
43.	<i>Sus scrofa</i> Linnaeus Family TRAGULIDAE	+	+	-	LR/lc
44.	<i>Moschiola meminna</i> (Erxleben) Family CERVIDAE	+	-	-	LR/lc
45.	<i>Axis axis</i> (Erxleben)	-	+	+	LR/lc
46.	<i>Cervus unicolor</i> Kerr	+	+	+	LR/lc
47.	<i>Muntiacus muntjac</i> (Zimmermann) Family BOVIDAE	+	+	+	LR/lc
48.	<i>Gazella bennetti</i> (Sykes)	+	+	+	LC
49.	<i>Boselaphus tragocamelus</i> (Pallas)	-	+	+	LC

Sl. No.	Species Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
50.	<i>Tetracerus quadricornis</i> (Blainville) Order PHOLIDOTA Family MANIDAE	+	+	+	VU
51.	<i>Manis crassicaudata</i> Gray Order RODENTIA Family SCIURIDAE	+	+	+	LR/nt
52.	<i>Funumbulus palmarum</i> (Linnaeus)	+	+	-	LR/lc
53.	<i>F. pennantii</i> Wroughton	-	+	+	LR/lc
54.	<i>Ratufa indica</i> (Erxleben) sub-species <i>centralis</i>	+	-	-	VU
55.	<i>Petaurista philippensis</i> (Elliot) Family MURIDAE	+	+	+	LR/lc
56.	<i>Tatera indica</i> (Hardwicke)	-	+	+	LR/lc
57.	<i>Bandicota bengalensis</i> (Gray & Hardwicke)	+	+	+	LR/lc
58.	<i>Golunda ellioti</i> Gray	-	+	-	LR/lc
59.	<i>Millardia meltada</i> Gray	-	+	-	LR/lc
60.	<i>Mus booduga</i> (Gray)	+	+	+	LR/lc
61.	<i>M. musculus</i> Linnaeus	+	+	+	
62.	<i>M. platythrix</i> Bennett	-	+	-	LR/lc
63.	<i>Rattus rattus</i> (Linnaeus)	+	+	+	LR/lc
64.	<i>Cremnomys blanfordi</i> (Thomas)	+	+	-	
65.	<i>Vandeleuria oleracea</i> (Bennett) Family HYSTRICIDAE	+	+	+	LR/lc
66.	<i>Hystrix indica</i> Kerr Order LAGOMORPHA Family LEPORIDAE	+	+	+	LR/lc
67.	<i>Lepus nigricollis</i> Cuvier	+	+	+	LR/lc

1. Order INSECTIVORA

Family SORICIDAE

1. *Suncus etruscus* (Savi, 1822)

1822. *Sorex etruscus* Savi, *Nuovo Giorn. De Letterati, Pisa*, 1 : 60.

Common Name : Savi's Pygmy shrew (E)

Diagnosis : Fur short, brownish in colour; HB less than 48 mm.

Distribution : Throughout the country. Extralimital : Afghanistan, Arabian Peninsula, Asia Minor, Bhutan, China, Iraq, Malaysia, Nepal, North Africa, Pakistan, Southern Europe, Sri Lanka, Thailand, Ethiopia, Guinea and Nigeria. Occurrence in the last three States requires confirmation (Hutterer in Wilson and Reader, 1993).

Remarks : Found in Kangerghati N.P.

2. *Suncus murinus* (Linnaeus, 1766)

1766. *Sorex murinus* Linnaeus, *Syst. Nat.* 12th ed. 1 : 74.

Common Name : Grey Musk Shrew (E); Chhuchhundar (H).

Diagnosis : Colour Brownish slaty or Slaty Grey; HB more than 93 mm.

Distribution : Throughout the country. Extralimital : Afghanistan, Bhutan, China, Japan, Myanmar, Nepal, Sri Lanka, Continental and peninsular Indo-Malayan region; introduced into Guam, Maldives Islands; coastal Africa, Madagascar, Mauritius and coastal Arabia.

Remarks : Present *Distribution* of the species is wider due to human agency (Hutterer and Trainer 1990). It is more common in the nearby villages at the outskirts of all the three National Parks rather than deep inside.

3. *Suncus stoliczkanus* (Anderson, 1877)

1877. *Crocidura (Pachyura) stoliczkanus* Anderson. *J. Asiat. Soc. Bengal*, 46 : 270.

Common Name : Anderson's Shrew (E).

Diagnosis : Dorsum from dull brown to reddish brown, ventral glossy grey, HB from 60 to 80 mm.

Distribution : Peninsular India from Chennai (Tamil Nadu) to Punjab and Rajasthan. Extralimital : Bangladesh, Nepal, Pakistan.

Remark : Found in Kangerghati N.P.

2. Order SCANDENTIA

Family TUPAIIDAE

4. *Anathana ellioti* (Waterhouse, 1850)

1850. *Tupaia ellioti* Waterhouse, *Proc. zool. Soc. Lond.*, 1849 : 107 (1850)

Common Name : Madras tree shrew (E).

Diagnosis : Dorsal reddish brown; tail darker than the back; feet and hind leg grizzled buffy; HB 165-200 mm, TL 147-230 mm, HF 36-45 mm, E 15-18 mm.

Distribution : Peninsular India, north to Bihar and West Bengal in the east and the Satpura Hills, Madhya Pradesh in the west.

Remark : Found in the peripheral region of Sonhat range of Guru Ghasidas N.P.

3. Order CHIROPTERA

Sub-order MEGACHIROPTERA

Family PTEROPODIDAE

5. *Cynopterus sphinx* (Vahl. 1797)

1797. *Vespertilio sphinx* Vahl, *Skr. Nat. Selsk. Copenhagen*, 4(1) : 123.

Common Name : Short-nosed Fruit Bat (E); Chota Badur (H).

Diagnosis : A medium sized bat, forearm approximately 70 mm, ears with white margin, metacarpal and phalanges whitish, nostrils divergent with deep internarial groove, dorsal colour grey or greyish brown, paler ventrally, often with a broad rufescent or chestnut area around shoulder and throat, naked skin of wings, nozzle is blackish brown, tail reduced and rod like.

Distribution : widely distributed throughout the main land of Indian Union; Extralimital : Pakistan, Sri Lanka, Nepal, Bangladesh and Myanmar.

Remarks : This fruit bat is more common near the periphery of all the three National Parks, in villages rather than deep inside. It is also common near the Forest Rest House and Forest Staff quarters.

6. *Rousettus leschenaulti* (Desmarest)

1820. *Pteropus leschenaulti* Desmarest, *Encycl. Meth. Mamm.*, 1 : 110. (Environments of Pondicherry, India)

Common Name : Indian Fulvous Fruit Bat (E).

Diagnosis : A medium-sized fruit bat, forearm around 80 mm, longish muzzle, large eyes, tail reduced and rod-like, ears with a notch at the lower edge, dorsally light brown with rufous tinge, ventral lighter, back of neck and shoulders sparsely haired, last lower molar elliptical.

Distribution : Throughout India; Extralimital : China, Indonesia, Myanmar, Nepal, Pakistan, Thailand and Vietnam.

Remarks : Found in Kusmi range of Sanjay N.P.

7. *Pteropus giganteus* (Brünnich)

1782. *Vespertilio gigantea* Brünnich, *Dyrenes Historie*, 1 : 45.

Common Name : Indian flying fox (E); Gadul, Badur, Pata debli (H).

Diagnosis : Size large, forearm 200 mm; rufous brown around head and neck; a conspicuous orange or honey-coloured band across upper back; lower back blackish brown; ventral parts dark chestnut brown; naked skin of wings, uropatagium, ears and muzzle jet black; no external tail; a narrow flap of skin inside each leg.

Distribution : Throughout the country, including Andaman Is.(rare); Extralimital : Nepal, Sri Lanka, Maldives, Myanmar, Thailand and China.

Remarks : Found in Kangerghati and Ramgarh range of Guru Ghasidas N.P.

Sub-order MICROCHIROPTERA

Family RHINOPOMATIDAE

8. *Rhinopoma hardwickei* Gray

1831. *Rhinopoma hardwickei* Gray, *Zool. Misc.*, 1 : 37.

Common Name : Lesser Rat-tailed Bat (E).

Diagnosis : A medium-sized bat; forearm 59.2-62.6 mm; mouse-like tail emerging from edge of narrow uropatagium, usually longer than forearm; sagittal crest low; rostrum with prominent globose narial swellings.

Distribution : In India it is so far recorded from Jammu and Kashmir at north to Karnataka at south, Rajasthan from west to Manipur and Nagaland upto east; Extralimital : Afghanistan, Pakistan, Myanmar, Thailand, Yemen and some other parts of SW Asia, Kenya and Nigeria.

Remarks : Found near Gangi Rani Cave of Guru Ghasidas N.P.

9. *Rhinopoma microphyllum* (Brünnich)

1782. *Vespertilio microphyllum* Brünnich, *Dyrenes Historie*, 1 : 50.

Common Name : Greater Mouse-tailed Bat (E).

Diagnosis : A medium-sized bat; fore arm 64.5-75.0 mm; long mouse-like tail emerging from edge of narrow uropatagium; tail usually shorter than forearm; sagittal crest prominent; rostrum with narial swellings not especially pronounced; tragus simple.

Distribution : In India its' *Distribution* is restricted to Delhi, Uttar Pradesh, Bihar, Orissa, West Bengal, Madhya Pradesh, Gujarat, Maharashtra and Rajasthan; Extralimital : Afghanistan, Pakistan, Myanmar, Indonesia, Thailand, also west to SW Asia, Egypt, Nigeria, Senegal and Sudan.

Remarks : Found in Kangerghati N.P.

Family EMBALLONURIDAE**10. *Taphozous longimanus* Hardwicke**

1825. *Taphozous longimanus* Hardwicke, *Trans. Linn. Soc. Lond.*, 14 : 525.

Common Name : Long-winged Tomb Bat (E).

Diagnosis : A dark brown, medium sized bat with broad tragus; adult males are usually lighter in colour, gular sac moderately developed in males, and in females represented by a rudimentary fold of naked skin; radio-metacarpal pouch moderately developed; inner margin of ear smooth; lower lip scarcely grooved.

Distribution : Widely distributed from Tamil Nadu in the south, northwards to Gujarat and Rajasthan in the west, Tripura and Nagaland in the east; Extralimital : Bangladesh, Combodia, Indonesia, Malaysia, Myanmar, Nepal, Sri Lanka, Tahiland.

Remarks : Found in all the three National Parks.

11. *Taphozous nudiventris* Cretzschmar

1830. *Taphozous nudiventris* Cretzschmar. In Rüppell. *Atlas Reise Nordl. Afr.*, Zool. *Saugeth*, 1 : 70.

Common Name : Naked-rumped Tomb Bat (E).

Diagnosis : A large blackish bat, gular sac present in both sexes, but reduced in female, muzzle and throat seminaked, ears papillate along margin: radio-metacarpal pouch very small; wings from tibiae above ankles.

Distribution : Almost throughout the country from Jammu and Kashmir in the north to Kanyakumari in the south, and Punjab in the west to Arunachal Pradesh in the east;

Extralimital : Myanmar, Bangladesh, Pakistan, Afghanistan west to Israel and W. Africa.

Remarks : Found in Kangerghati and Guru Ghasidas N.P.

Family MEGADERMATIDAE

12. *Megaderma lyra* Geoffroy

1810. *Megaderma lyra* Geoffroy. *Ann. Mus. Hist. Nat. Paris*, **15** : 190.

Common Name : Indian False Vampire (E).

Diagnosis : A medium sized bat, forearm 60.0-70.0 mm, with large ears, noseleaf, large tragus but without externally visible tail; posterior termination of noseleaf truncated; dorsal colour slaty grey.

Distribution : Throughout the Indian mainland; Extralimital : Pakistan, Afghanistan, Nepal, Sri Lanka, Bangladesh, China, Malaysia, Myanmar, Thailand and Vietnam.

Remarks : Found in Kangerghati N.P.

Family RHINOLOPHIDAE

13. *Rhinolophus lepidus* Blyth

1844. *Rhinolophus lepidus* Blyth, *J. Asiat. Soc. Bengal*, **13** : 486.

Common Name : Blyth's Horseshoe Bat (E).

Diagnosis : A comparatively small bat, forearm $\pm$ 40 mm; base of sella arched; noseleaf and ears relatively large.

Distribution : In India, south from Kerala to north upto Madhya Pradesh and Delhi and west from Maharashtra, Gujarat, Rajasthan east to Nagaland; Extralimital : Nepal and Thailand.

Remarks : Found in Sanjay and Guru Ghasidas N.P.

14. *Rhinolophus luctus* Temminck

1835. *Rhinolophus luctus* Temminck. *Monogr. Mamm.*, **2** : 24.

Common Name : Wolly Horseshoe Bat (E).

Diagnosis : Large horseshoe bat, forearm upto 78 mm, sella trifoliate, lower lip with one mental groove, tip of tail included in interfemoral membrane, frontal sac present, smaller in female, fur dense and woolly, colour blackish.

Distribution : In India, from Kerala north and west upto Madhya Pradesh, east upto Nagaland and Meghalaya. Extralimital : found in China, Indonesia, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand and Vietnam.

Remarks : Found in Kangerghati N.P.

15. *Rhinolophus rouxii* Temminck

1835. *Rhinolophus rouxii* Temminck, *Monogr. Mamm.*, 2 : 306.

Common Name : Peninsular Horseshoe Bat (E).

Diagnosis : A medium sized bat, margins of horizontal base of sella straight; colour varies from brown to orange-yellow.

Distribution : In India recorded from Andhra Pradesh, Arunachal Pradesh, Goa, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Orissa, Pondicherry, Tamil Nadu, Uttar Pradesh and West Bengal; Extralimital : China, Myanmar, Nepal, Sri Lanka and Vietnam.

Remarks : Found in Kangerghati N.P. inside and outside of Dandak cave.

16. *Hipposideros cineraceus* Blyth

1853. *Hipposideros cineraceus* Blyth, *J. Asiat. Soc. Beng.*, 22 : 410.

Common Name : Blyth's Leaf-nosed Bat (E)

Diagnosis : Smallest *Hipposideros*; forearm around 35 mm; dorsal colour dusky grey; basal three fourth of hairs greyish-white which show through, specially on head and neck; ventral parts greyish white; internarial septum more or less parallel sided and inflated; zygomatic arch narrow and delicate; anterior upper premolar small, compressed between canine and posterior upper premolar, not extruded from toothrow (canine does not touch posterior premolar at any point).

Distribution : India: Assam, Arunachal Pradesh, Chhattisgarh, Meghalaya, Haryana, Uttar Pradesh, West Bengal. Extralimital : Anamba Islands, Borneo (?), Laos, Malaya Peninsula, Myanmar, Nepal, Pakistan, Philippine Islands, Rhio Archipelago, Thailand.

Remark : It is the first record of the species from Chhattisgarh which roosts in the Kotamsar and Kailash Cave of Kangerghati N.P.

17. *Hippodicerus lankadiva* Kelaart

1850. *Hippodicerus lankadiva* Kelaart *J. Ceylon Brch. R. Asiat. Soc.*, 2 : 216.

Common Name : Kelaart's Leaf-nosed Bat (E)

Diagnosis : Ears large, acutely pointed; posterior margins slightly concave behind tip; noseleaf with four supplementary leaflets, fourth much reduced, often absent; posterior portion of noseleaf high and broad, upper margin semicircular and supported by three septa.

Distribution : India: Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Tripura. Extralimital : Northern Myanmar, Sri Lanka.

Remark : The specimen was collected from Gangirani Cave near Guru Ghasidas N.P. It is the first record from that region.

Family VESPERTILIONIDAE

18. *Pipistrellus ceylonicus* (Kelaart)

1852. *Scotophilus ceylonicus* Kelaart, *Prodr. Foun. Zeylanica*, p. 22.

Common Name : Kelaart's Pipistrelle (E).

Diagnosis : One of the large pipistrellus, forearm may reach upto 40 mm, ear short and triangular, outer margin straight, tragus with straight inner and convex outer margin and a triangular lobule at base, wings from base of toes, post calcarial lobe semicircular, extreme tip of tail free from membrane, dorsal colour brown to reddish or greyish brown, ventral parts slightly paler, ears and membranes blackish brown.

Distribution : South from Kerala to north upto Uttar Pradesh, West from Gujarat to east upto West Bengal; Extralimital : China, Indonesia, Myanmar, Pakistan, Sri Lanka and Thailand.

Remarks : Found in Sanjay and Guru Ghasidas N.P.

19. *Pipistrellus coromandra* (Gray)

1838. *Scotophilus coromandra* Gray, *Mag. Zool. Bot.*, 2 : 498.

Common Name : Indian Pipistrelle (E); Chamgadour (H).

Diagnosis : A small sized pipistrelle, fore arm $\pm$ 31 mm, dorsal blackish brown with tips of hairs slightly rufescent, ventral fur slightly paler brown, tragus forward carving and bluntly rounded, calcarial lobe small.

Distribution : From peninsular India, north to Jammu and Kashmir east to NE states upto Tripura and Car Nicobar Is. Extralimital : Afghanistan, Bangladesh, Bhutan, China, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Vietnam.

Remarks : Found in all the three National Parks.

20. *Pipistrellus dormeri* (Dobson)

1875. *Scotozous dormeri* Dobson, *Proc. zool. Soc. Lond.*, p. 273.

Common Name : Dormer's bat (E); Chamgadour (H).

Diagnosis : A large pipistrelle, ear short and triangular, tragus with straight inner and convex outer margin and a triangular lobule at the base, extreme tip of tail free from membrane, second upper incisor very small, not extending beyond cingulum of inner incisor; under parts whitish, often lemon yellow in live and freshly killed specimens.

Distribution : In India, at least from Karnataka in south to Jammu and Kashmir in the north, Punjab in the west to Mizoram and Nagaland in the east. Extralimital : Pakistan and mostly in China.

Remarks : Found in Kangerghati N.P.

21. *Pipistrellus tenuis* (Wroughton)

1899. *Pipistrellus mimus* Wroughton, *J. Bombay nat. Hist. Soc.*, 12 : 722.

Common Name : Indian Pygmy Pipistrelle (E); Chamgadour (H).

Diagnosis : A small pipistrelle, forearm $\pm$ 28 mm, fur dense and short, dorsal colouration bistre brown, base of hairs almost black, ventral parts lighter; face, ears and wing-membranes almost black; ears small and scarcely triangular; tragus short and curved forward, post calcarial lobe present, wings from base of toes.

Distribution : Throughout the country; Extralimital : Afghanistan, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Vietnam.

Remarks : Found in all the three National Parks.

22. *Scotophilus heathi* (Horsfield)

1831. *Nycticejus heathi* Horsfield, *Proc. zool. Soc. Lond.*, p. 113.

Common Name : Asiatic Greater Yellow Bat (E); Chamgadour (H).

Diagnosis : A medium sized bat, forearm more than 55 mm, ears small, tips rounded, tragus semilunar, posterior border markedly convex, anterior border concave, tip slender and forward-pointing, wing from side of foot near base of toes, tip of tail free, fur short, dense and sleek, dorsal brownish ventrally lemon to orange yellow.

Distribution : Throughout the country. Extralimital : Afghanistan, Bangladesh, China, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and Vietnam.

Remarks : Found in Sanjay N.P.

23. *Scotophilus kuhlii* Leach

1821. *Scotophilus kuhlii* Leach, *Trans. Linn. Soc. London*, **13** : 71.

Common Name : Asiatic Lesser Yellow Bat (E); Chamgadour (H).

Diagnosis : Very similar to *S. heathi* but smaller in size, forearm not more than 55.0 mm, dorsal colour olive brown, ventrally creamy white with a tinge of red.

Distribution : Distributed throughout the Indian Union as well as Nicobar Is.; Extralimital : Afghanistan, Pakistan, Sri Lanka, Bangladesh to China and Malayasia, south east to Philippines and Indonesia.

Remarks : Found in Guru Ghasidas and Sanjay N.P.

4. Order PRIMATES

Family CERCOPITHECIDAE

24. *Macaca mulatta* (Zimmermann)

1780. *Cercopithecus mulatta* Zimmermann, *Geogr. Gesch. Mensch. Vierf. Thiere*, **2** : 195.

Common Name : Rhesus Macaque (E); Bandar (H).

Diagnosis : A medium-sized macaque, HB 47-63 cm, hind quarters of the body of orange-red hue, tail short and hairy, less than half the length of head and body.

Distribution : Whole of North and NE India, south upto 15° 46' N Latitude near Bay of Bengal; Extralimital : Afghanistan, Bangladesh, Nepal, Pakistan, Bhutan to Thailand including China.

Remarks : A troop was seen near Tirathgarh falls, Kangerghati National Park, and in Sanjay and Guru Ghasidas National Parks also.

25. *Semnopithecus entellus* (Dufresne)

1797. *Simia entellus* Dufresne, *Bull. Sci. Soc. Philom. Paris, ser. I* : 7:49.

Common Name : Entellus Monkey or Langur (E); Langur, Hanuman (H).

Diagnosis : Slender body, long tail, long slender hands, black face, dark-grey on the back, ventrally paler; when seated 60-75 cm high; tail 90-100 cm.

Distribution : Throughout the country except NE India and western part of Gujarat; Extralimital : Bangladesh, China, Nepal, Pakistan, Sri Lanka.

Remarks : Troops were seen in both Guru Ghasidas and Sanjay National Parks and near Kailash Cave in Kangerghati National Park.

5. Order CARNIVORA

Family CANIDAE

26. *Canis aureus* Linnaeus

1758. *Canis aureus* Linnaeus, *Syst., Nat.*, 10th. Ed., 1 : 40.

Common Name : Asiatic Jackal (E); Gidar, Sial (H).

Diagnosis : A well shaped head with long conical muzzle but lacks arching brows and elevated forehead; large erect ears, long slender legs, a bushy tail, and five toes on forefeet and four on the hind; HB 60-75 cm, males 38-43 cm high at shoulder, coat colour a mixture of black and white washed with buff.

Distribution : Almost throughout the country. Extralimital : Afghanistan, central SW and south Asia, North and East Africa, SE Europe, Iran, Nigeria, Tangania, Thailand, Transcaucasus, Sri Lanka.

Remarks : In all the three National Parks but population density fairly good in Guru Gharidas N.P. and thinner in Kangerghati N.P.

27. *Canis lupus* Linnaeus

1758. *Canis lupus* Linnaeus, *Syst. Nat.*, 10th. Ed., I : 39.

Common Name : Wolf (E); Bheria (H).

Diagnosis : Legs long, slender and digitigrade; fourth digit of forefoot raised above the plantar pad; hind foot with only 4 toes; size of an Alsatian dog with male 65-75 cm high at shoulder; dorsal greyish fulvous or reddish, with a brownish tinge, sometimes mixed with black; face and limbs reddish; forehead elevated and brows arched.

Distribution : Except extreme south, practically all over the country. Extralimital : Throughout the northern hemisphere, North America south to 20° N in Oaxaca (Mexico), Europe, Asia including the Arabian peninsula and Japan excluding Indo-China.

Remarks : It is present in all the three National Parks but population is so thin that seldom seen. Pug marks only seen near Surendrawara zhoari (18° 52' 47.6" N & 81° 59' 32.1" E) at Kangerghati N.P., Kekra Nallah (23° 46' 0.39" N & 80° 11' 25.8" E) at Kotadol range of Guru Gharsidas N.P. and only one individual was seen at Golipahari (23° 54' 34.6" N & 81° 53' 7.67" E) at Ponri range of Sanjay N.P.

28. *Vulpes bengalensis* (Shaw)

1800. *Canis bengalensis* Shaw, *Gen. Zool. Syst. Nat. Hist.*, 1(2), *Mammalia*, p. 330.

Common Name : Indian Fox (E); Lumri (H).

Diagnosis : HB 450-600 mm, TL 250-350 mm; a slender limbed animal, smaller and slimmer in built, distinctive in the black tip to its tail; the backs of its ears are generally of the same tone as the head and nape; colour grey.

Distribution : Throughout the country. Extralimital : Bangladesh, Nepal, Pakistan.

Remarks : Found in all the three National Parks but population rather rich near villages situated outside the National Parks.

29. *Cuon alpinus* (Pallas)

1831. *Canis alpinus* Pallas, *Zoogr. ROSSO-Asiat.*, I : 34.

Common Name : Wild Dog, Dhol (E); Son-Kutta (H).

Diagnosis : Ht. 430-550 mm at shoulder; HB± 900 mm; TL 160-170 mm ;General appearance, much like a domestic dog but with lanky body; ears rounded at the tip; tail quite bushy; distinctive reddish coat varies in tone with season and locality; molar teeth six in number.

Distribution : In India, south of river Ganges, peninsula from Coorg and Nilgiri Hills northwards to Kashmir, Sikkim, Darjeeling district of West Bengal, Uttar Pradesh and NE India. Extralimital : Bhutan, China, Indo-China, Indonesia, Korea, Malaysia, Manchuria, Mangolia, Nepal, Pakistan, Russia (Ussuri region, Siberia), Tibet.

Remarks : Found in Kangerghati, Guru Ghasidas and Sanjay N.P.

Family FELIDAE

30. *Felis chaus* Schreber

1777. *Felis chaus* Schreber, *Die Säugethiere*, 2(13) : pl. 1101B (1777); text, 3(24) : 414(1777).

Common Name : Jungle Cat (E); Khatas, Jungli Billi (H).

Diagnosis : HB + 600 mm; TL ± 300 mm; legs long ; tail comparatively short ; eyes pale green; colour varies from sandy grey to yellowish grey; tail is ringed with black to wards the end and has a black tip, the paws are pale yellowish, black or sooty brown underneath; 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 : Almost throughout the country. Extralimital : Afghanistan, Algeria, Arabia, Bangladesh, Benin, China, Egypt, Iran, Iraq, Israel, Kenya, Malawi, Morocco, Mojambique, Myanmar, Nepal, Pakistan, Sri Lanka, Syria, Thailand, Vietnam, Yemen, Zambia, Zimbabwe, Commonwealth of Independent States (old U.S.S.R.).

Remarks : Though its *Distribution* is throughout the country yet it was seen only in Sonhat range of Guru Ghasidas N.P.

31. *Prionailurus bengalensis* (Kerr.)

1792. *Felis bengalensis* Kerr. In Linnaeus, *Animal Kingdom*, I : 151.

Common Name : Leopard cat (E); Chita Billi (H).

Diagnosis : About the size of a domestic cat, HB $\pm$ 600 mm; coat yellowish above, white below, ornamented throughout with black or brownish spots; four distinct bands run from the crown over the neck.

Distribution : Forest regions of India from Kashmir and the Himalayas to Cape Comorin; Extralimital : Afghanistan, Bangladesh, China, Cambodia, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Taiwan, Thailand, Commonwealth of Independent States (old U.S.S.R.) and Vietnam.

Remarks : Seen in Sonhat and Rihand Range of Guru Ghasidas N.P. and Kusmi Range of Sanjay N.P.

32. *Panthera tigris* (Linnaeus)

1758. *Felis tigris* Linnaeus, *Syst. Nat.*, 10th. Ed., 1 : 41.

Common Name : Tiger (E); Sher, Bagh (H).

Diagnosis : A graceful creature, HB 1.8-2.8 m; coat orange rufous with black stripes.

Distribution : Throughout India in suitable pockets except desert region. Extralimital : Bangladesh, Bhutan, China, Laos, Indonesia, Korea, Malaysia, Myanmar, Nepal, Thailand, Vietnam, Commonwealth of Independent States (old U.S.S.R.).

Remark : No sign of presence of tiger was observed in the National Parks. However, it was informed by the local people that one tiger was seen sometime in summer of 2003 in the Kusmi Range of Sanjay National Park and it was reported to have moved towards Muluknar of the Guru Gharidas N.P. It has also been reported that tiger is an occasional visitor in Sanjay and Guru Ghasidas N.P.

33. *Panthera pardus* (Linnaeus)

1758. *Felis pardus* Linnaeus, *Syst. Nat.*, 10th. Ed., 1 : 41.

Common Name : Leopard (E); Tenduwa, Chita, Son Chita, Chita Bagh (H).

Diagnosis : Size medium, HB 0.92-1.5 m; coat-colour cinnamon buff, marked with small close set black rosettes.

Distribution : Throughout India in suitable pockets. Extralimital : Africa, Asia except the high Tibetan Plateau.

Remark : Commonest large cat in all the three National Parks.

Family HERPESTIDAE

34. *Hespestes edwardsii* (E. Geoffroy Saint-Hilaire)

1818. *Ichneumon edwardsii* E. Geoffroy Saint-Hilaire, *Descrip de L' Egypte*, 2 : 139.

Common Name : Indian Gray Mongoose (E); Newal, Newla (H).

Diagnosis : HB 230-650 mm, TL 230-510 mm; a tawny yellowish grey mongoose, with no stripes on the sides of neck; body long with short limbs, pointed muzzle, inconspicuous ears and a trailing white-tipped tail.

Distribution : Throughout India in suitable habitat; Extralimital : Afghanistan, Bahrain, Indonesia, Iran, Japan, Kuwait, Malaysia, Nepal, Pakistan, Saudi Arabia, Sri Lanka.

Remark : Found in all the three National Parks.

35. *Herpestes javanicus* (E. Geoffroy Saint-Hilaire)

1818. *Ichneumon javanicus* E. Geoffroy Saint-Hilaire, *Descrip. De L'Egypte*, 2 : 138.

Common Name : Small Indian Mongoose (E); Newla (H).

Diagnosis : Total length 45–50 cm; dark olive brown in colour, minutely speckled with gold; tail shorter than head and body.

Distribution : From Jammu and Kashmir in north to Andhra Pradesh in south and west from Gujarat in west to NE states in east. Extralimital : Afghanistan, Bangladesh, Bhutan, Cambodia, China, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Thailand, Vietnam, and introduced in Cuba, Fiji Isls., Hawaiian Isls., Jamaica, Japan, Puerto Rico, Surinam, West Indies and many other tropical regions.

Remarks : Found in all the three National Parks.

Family HYAENIDAE

36. *Hyaena hyaena* (Linnaeus)

1758. *Canis hyaena* Linnaeus, *Syst. Nat.* 10th ed., 1 : 40.

Common Name : Striped Hyena (E); Lakkar Bagha (H).

Diagnosis : HB 1036-1190 mm, TL 265-470 mm; dog-like in built, massive head and forebody; weak hindquarters and a prominent dorsal crest; coat-colour cream, buff, grey to pale brown; dark brown to black stripes on the body and legs; length of hairs of the mane ranges upto 200 mm, while those of the rest of the body about 70 mm; each front and hind foot has four digits.

Distribution : In India, from low lands of Jammu and Kashmir and Kumaon in north to Nilgiri Hills in south; from Gujarat in west to West Bengal in east. Extralimital : Northern and eastern Africa, south to Tanzania; Asia Minor to Arabia, Iran, Transcaucasia and Turkmenia.

Remarks : Sighted in all the three National Parks.

Family MUSTELIDAE

37. *Lutrogle perspicillata* (I. Geoffroy Saint-Hilaire)

1826. *Lutra perspicillata* I. Geoffroy Saint-Hilaire, In *Bory de Saint Vincent, Dict. Class. Hist. Nat. Paris*, 9 : 519.

Common Name : Smooth-coated otter (E); Ud Bilao (H).

Diagnosis : HB 650-750 mm, TL 400-450 mm; heavy built; coat, smooth and sleek; colour, blackish to rufous chocolate-brown, sometimes sandy or tawny brown and dorsal fur not grizzled; hairs of the muzzle terminate in a straight line above the naked part of the nose.

Distribution : Almost throughout the country except high region of the Himalayas; Extralimital : Afghanistan, Bangladesh, China, Indonesia, Iraq, Malaysia, Nepal, Pakistan, Thailand, Vietnam.

Remarks : Sighted near Bhainsa dhara of Kangerghati N.P. and Gopad river of Guru Ghasidas N.P.

38. *Mellivora capensis* (Schreber)

1776. *Viverra capensis* Schreber, *Die Säugethiere*, 3(18) : Pl. 125(1776); Text, 3(26) : 450(1777).

Common Name : Honey Badger or Ratel (E); Bejju (H)

Diagnosis : HB 600-770 mm; TL 200-300 mm; upper parts, from the top of the head to the base of the tail vary from grey to pale yellow or whitish and contrast sharply with the dark brown or black of the under parts; body heavily built; legs and tail relatively short; ears small, muzzle blunt, forehead large and armed with very large and strong claws.

Distribution : Practically throughout the country except NE States and Jammu and Kashmir; Extralimital : Afghanistan, Arabia, Ethiopia, Iraq, Iran, Morocco, Nepal, Pakistan, Palestine, Commonwealth of Independent States (old U.S.S.R.), South Africa, Turkmenia.

Remarks : Found in all the three National Parks.

Family URSIDAE

39. *Melursus ursinus* (Shaw)

1791. *Bradypus ursinus* Shaw, *Nat. Misc.*, 2(unpaged), pl. 18.

Common Name : Sloth Bear (E); Bhalu (H).

Diagnosis : HB 1400-1800 mm; TL 100-125 mm; shoulder height 610-915 mm; heavy body, elongated muzzle, long mobile lips, stocky hind legs and ivory-white long claws on the forefeet; body covered with long, coarse, blackish brown hairs, with a whitish 'V' shaped breast patch.

Distribution : Almost throughout India in suitable forested area; Extralimital : Bangladesh, Nepal, Sri Lanka.

Remarks : Found in all the three National Parks.

Family VIVERRIDAE

40. *Paradoxurus hermaphroditus* (Pallas)

1777. *Viverra hermaphroditus* Pallas, *In Schreber, Die Säugethiere*, 3(25): 426.

Common Name : Common Palm Civet, Toddy Cat (E); Lakati (H).

Diagnosis : HB 432-710 mm; TL 406-660 mm; fur coarse and long ; blackish brown in colour; coat bears longitudinal stripes on the back; a white spot present below each eyes; a large patch extending from above the eye to the base of the ears.

Distribution : Almost throughout the country except desert part of Rajasthan and Gujarat. Extralimital : Bhutan, Bangladesh, Cambodia, China, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Vietnam, Sulawesi, Moluccas, Aru Islands.

Remarks : Sighted near the villages in and around the National Parks.

41. *Viverricula indica* (Desmarest)

1804. *Viverricula indica* Desmarest *Tabl. Meth. Hist. nat., In Nouv. Dict. Hist. Nat.*, 24 : 9, 17.

Common Name : Small Indian Civet (E); Kasturi (H)

Diagnosis : HB 450-630 mm, TL 300-340 mm; fur coarse and harsh; colour buffy, brownish or greyish; feet black; small spots up to forelimb, larger spots at the back,

tending to run into longitudinal lines; six to eight dark stripes on the back; tail ringed with black and white, six to nine rings of each colour.

Distribution : Throughout the country in suitable habitats; Extralimital : Bangladesh, Cambodia, China, Hong Kong, Indonesia, Laos, Malaysia, Myanmar, Pakistan, Sri Lanka, Taiwan, Thailand, Vietnam.

N.B. This species has been introduced in many countries.

Remark : It was seen near the periphery of the National Parks or near villages in or just outskirts of the parks.

6. Order PROBOSCIDEA

Family ELEPHANTIDAE

42. *Elephas maximus* Linnaeus

1758. *Elephas maximus* Linnaeus, *Syst. Nat.*, 10th. Ed., 1 : 33.

Common Name : Indian Elephant (E); Hathi (H).

Diagnosis : HB 5500 to 6400 mm; TL 1200 to 1500 mm; shoulder height usually 2500 to 3000 mm but maximum height recorded up to 3400 mm; massive built with long flexible proboscis; generally males possess enlarged incisor teeth, the tusks; colour dark grey to brown or blackish brown; body covered with scanty stiff and bristly hairs and a tuft of hair at the base of the tail; four nails on each hindfoot.

Distribution : In India, found in Andhra Pradesh, Bihar, Jharkhand, Karnataka, Kerala, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal and NE States; Introduced in Andaman Is. for private use but some times released into the forests; Extralimital : Bangladesh, China, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam.

Remarks : In the recent past elephant was not reported from Madhya Pradesh or Chhattisgarh. But during the present survey a small herd of eleven wild elephants was seen at Kotadol range of Guru Ghasidas N.P. in the year 2003 and another herd of nine with a cub was observed in the Kusmi range of Sanjay N.P. in the year 2005. It is assumed that one or two herds of elephants were moving to west in Chhattisgarh and Madhya Pradesh from the eastern states such as Jharkhand and Orissa. It was reported by the forest officials that the herd of Sanjay N.P. was residing there almost throughout the year.

Thus it may be opined that the elephants are trying to move towards west making a corridor through Guru Ghasidas N.P. or Chhattisgarh State (They were reported earlier in 1988 from Raipur and Bilaspur districts also) for favourable shelter.

7. Order ARTIODACTYLA

Family SUIDAE

43. *Sus scrofa* Linnaeus

1758. *Sus scrofa* Linnaeus, *Syst. Nat.* 10th ed., 1 : 49.

Common Name : Wild Boar (E); Suar (H).

Diagnosis : A full grown male can stand upto 900 mm high at shoulder; colour blackish grey mixed with rusty brown and white hairs; a prominent crest or mane of black bristles reaching from the nape down the back; tusks well developed in males, both the upper and lower tusks curve outwards and project from the mouth.

Distribution : Throughout India in suitable forested areas; Extralimital : Australia, China, Central and South America, Fiji Islands, Europe, Galapagos, Hawaii Islands, Indonesia, Lesser Sunde Islands, Mauritius, Molucca Islands, Norway and Oceanic Islands, New Guinea, south Russia to middle east, Sri Lanka, Sweden, South Africa, Solomon Islands, U.S.A. and West Indies.

Remarks : Sighted in all the three National Parks.

Family TRAGULIDAE

44. *Moschiola meminna* (Erxleben)

1777. *Moschus meminna* Erxleben, *Syst. Regn. Anim.*, 1 : 322.

Common Name : Indian Spotted Chevrotain (E); Pisura (H).

Diagnosis : HB 400-750 mm; TL 25-125 mm; shoulder height 200-350 mm; smallest of all living hooved mammals; hornless; canine teeth present on both the jaws; upper canine enlarged into small tusks in males, protruding from the mouth; coat colour olive brown; flanks marked with rows of white spots; three white stripe present of throat.

Distribution : In India, from Tamil Nadu to Madhya Pradesh in north; Extralimital : Nepal, Sri Lanka.

Remarks : Sighted in Kangerghati National Park.

Family CERVIDAE

45. *Axis axis* (Erxleben)

1777. *Cervus axis* Erxleben, *Syst. Regn. Anim.*, 1 : 312.

Common Name : Spotted deer (E); Chital (H).

Diagnosis : HB 1000-1750 mm; TL 128-360 mm; shoulder height 600-1000 mm; coat colour bright rufous fawn, spotted with white; antlers three-tined; a long brow-tine set at right angles to the beam.

Distribution : In India, from Peninsular region, northwards to Kumaon and Sikkim including West Bengal; introduced in Andaman; Extralimital : Nepal, Sri Lanka and introduced in many parts of the world.

Remarks : Guru Ghasidas and Sanjay N.P.

46. *Cervus unicolor* Kerr

1792. *Cervus unicolor* Kerr, In Linnaeus, Anim. Kingdom, p. 300.

Common Name : Sambar (E); Sambhar (H).

Diagnosis : Height at shoulder nearly 1500 mm; average length of horn 650 mm but it may attain length up to 950 mm; coat coarse and shaggy with a mane about the neck and throat in male; colour brown with yellowish or grayish tinge, antlers stout, brow tine set at an acute angle with the beam which forks into two nearly equal tines.

Distribution : In India, from Uttar Pradesh south to Tamil Nadu and east to NE States; Extralimital : Australia, China, Indonesia, Malaysia, Myanmar, Taiwan, Sri Lanka.

Remarks : Sighted in all the three National Parks.

47. *Muntiacus muntjak* (Zimmermann)

1780. *Cervus muntjak* Zimmermann, *Geogr. Gesch. Mensch. Vierf. Thiere*, 2 : 131.

Common Name : Barking Deer (E); Kakar (H).

Diagnosis : HB 800-1130 mm; TL 110-240 mm; shoulder height 450-580 mm; colour deep brown to yellowish or grayish brown and marked with creamy or whitish markings; antlers small, consisting of a short brow-tine and an unbranched beam, set on a bony pedicel which extends down each side of the face as a bony ridge; in males, upper canine well developed.

Distribution : Almost throughout the country except Jammu and Kashmir as well as desert region; Extralimital : Bangladesh, Bhutan, China, Indo-China, Indonesia, Malaysia, Nepal, Pakistan, Sri Lanka.

Remarks : Sighted in all the three National parks.

Family BOVIDAE

48. *Gazella bennettii* (Sykes)

1831. *Antilope bennettii* Sykes, *Proc. Zool. Soc. London*, 1830-31 : 104((1831).

Common Name : Indian Gazelle (E); Chinkara (H).

Diagnosis : A full grown male measures about 650 mm at shoulder; horns measured about 250-300 mm; slender built; body above light chestnut and below white; white streak down each side of the face and a dusky patch above the nose; horns closely ringed and take a 'S' shaped curve.

Distribution : In India from Tamil Nadu and Karnataka at south to Uttar Pradesh at north and West upto Punjab and Rajasthan; Extralimital : Eastern Iran to Pakistan.

Remarks : Sighted in all the three National Parks.

49. *Boselaphus tragocamelus* (Pallas)

1766. *Antilope tragocamelus* Pallas, *Misc. Zool.*, p. 5.

Common Name : Blue Bull (E); Nilgai (H).

Diagnosis : HB 1800-2100 mm; TL 456-535 mm; shoulder height 1200-1500 mm; colour iron-grey in males and tawny in females and sub-adults; white in lips and chin, two spots on cheek and a ring below each fetlock; both sexes possess dark manes; a tuft of stiff black hairs on the throat and stout cone-like horns present in males; forelegs somewhat longer than the hind ones, and long and pointed head.

Distribution : In India, from base of Himalayas to Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh; Extralimital : Nepal, Pakistan and also introduced in Texas (U.S.A.).

Remarks : Sighted in Guru Ghasidas and Sanjay N.P.

50. *Tetracerus quadricornis* (Blainville)

1816. *Cerophorus quadricornis* Blainville, *Bull. Sci. Soc. Philom. Paris*, p. 75.

Common Name : Four-horned Antelope (E); Chawsingha (H).

Diagnosis : Height of male at shoulder is approximately 650 mm; the posterior horns 80-100 mm and the anteriors 10-25 mm in length. The only antelope with two pairs of horns; a pair of well-developed glands between the false hooves of the hind legs in both males and females; colour dull red-brown above and white below; a dark stripe down the front of each leg which is broader in forelegs.

Distribution : Peninsula, south upto Tamil Nadu; Eastern Ghats, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh; Extralimital : Nepal.

Remarks : Reported from all the three National Parks.

8. Order PHOLIDOTA

Family MANIDAE

51. *Manis crassicaudata* Gray

1827. *Manis crassicaudata* Gray, In Griffith et al., *Anim. Kingdom*, 5 : 282.

Common Name : Indian Pangolin (E); Bajra Kit (H).

Diagnosis : HB 300-880 mm; TL 350-880 mm; body covered with scales; snout long; scales are lacking on the snout, chin, sides of the face, throat, belly and inner surfaces of the limbs; colour varies from pale olive and yellowish brown to dark brown; hairs of scaleless areas, pale brown to russet, blackish or whitish.

Distribution : In India, Andhra Pradesh, Bihar, Delhi, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal; Extralimital : Bangladesh, China, Pakistan, Sri Lanka.

Remarks : Sighted in all the three National Parks.

9. Order RODENTIA

Family SCIURIDAE

52. *Funambulus palmarum* (Linnaeus)

1766. *Sciurus palmarum* Linnaeus. *Syst. Nat.*, 12th. Ed., 1 : 86.

Common Name : Indian Palm squirrel (E); Gilheri (H).

Diagnosis : HB 120-180 mm; tail little longer; above dusky greenish grey with three yellowish-white stripes along the whole length of the back, and two hinder lines on each side; underparts whitish; tail with the hairs variegated with red and black; ears rounded.

Distribution : In India, from northern Maharashtra to West Bengal, south to Tamil Nadu; Extralimital : Sri Lanka.

Remarks : Sighted in Kangerghati and Guru Ghasidas N.P.

53. *Funambulus pennantii* Wroughton

1905. *Funambulus pennantii* Wroughton, *J. Bombay nat. Hist. Soc.*, 16 : 411.

Common Name : Northern Palm Squirrel (E); Gilheri (H).

Diagnosis : HB 130-150 mm, tail little longer; colour of the back brownish or grayish; head and limb tending to be greyish; feet pale often whitish; back with five whitish or white stripes separated by four dark brown bands; colour of the tail apparently whitish or grayish white, then blackish and paler at tip; under parts whitish or darty white.

Distribution : In India, northern, northeastern, west and central part; Andaman Island (introduced); Extralimital : Afghanistan, Iran, Nepal, Pakistan.

Remarks : Sighted in Guru Ghasidas and Sanjay National Parks.

54. *Ratufa indica* (Erxleben)

1777. *Sciurus indica* Erxleben, *Syst. Regn. Anim.*, 1 : 420.

Common Name : Indian Giant Squirrel (E); Karrat (H).

Diagnosis : HB 350-470 mm; TL $\pm$ 600 mm; large squirrel with long furry tail; colour deep red, with scattered black patches above and buff beneath.

Distribution : Peninsular India;

Remarks : The observed giant squirrel in Kangerghati National Park was *Ratufa indica centralis*.

55. *Petaurista philippensis* (Elliot)

1839. *Pteromys philippensis* Elliot, *Madras, J. Litt. Sci.*, 10 : 217.

Common Name : Indian Giant Flying Squirrel (E). Urhan Gilheri (H).

Diagnosis : A large flying squirrel, HB 350 - 455 mm; TL 409 -530 mm; colour, more greyish than reddish, varying from deep chestnut to greyish brown in one direction and to sooty black in the other, the longer hairs partly white to give a hoary appearance; a long bushy blackish tail usually with greyish basal; Parachute and forelimb usually brown; Underparts white or grayish and cheeks usually grey.

Distribution : In India, Bihar, Chhattisgarh, Maharashtra, Orissa, Southern Peninsula, Rajasthan and Tamil Nadu. Extralimital : China, Indonesia, Myanmar, SriLanka, Taiwan, Thailand.

Remarks : Reported from all the three National Parks.

Family MURIDAE

56. *Tatera indica* (Hardwicke)

1807. *Dipus indicus* Hardwicke, *Trans. Linn. Soc. London*, **8** : 279.

Common Name : Indian Gerbil or Antelope Rat (E); Harna mus (H).

Diagnosis : Head and body approximately 200 mm or more; tail longer than head and body; above light brown varying from sandy brown to brownish grey or reddish; under parts white; the tail usually dark above and below (sometimes black), and pale along the sides; tail quite well haired and tufted and most often black in the terminal tuft but may be white; feet usually white.

Distribution : India except northeastern region; Extralimital : Saudi Arabia, Iran, Iraq, Pakistan, Sri Lanka, Syria.

Remarks : Found in the outskirts of the Guru Ghasidas and Sanjay N.P.

57. *Bandicota bengalensis* (Gray and Hardwicke)

1833. *Arvicola bengalensis* Gray and Hardwicke, *Illustr. Indian Zool.* P. 21.

Common Name : Lesser Bandicoot Rat (E); Chuha (H).

Diagnosis : HB 150-260 mm; tail shorter than head and body; body dark grey above; paler below; forefeet with four finger and hinder ones with five; hairs short and harsh.

Distribution : Throughout India; Extralimital : Indo-China, Indonesia, Myanmar, Nepal, Pakistan, Sri Lanka.

Remark : Not found deep inside the National Parks but common near the periphery of the parks as well as with the human settlements inside or just in outskirts of the National Parks.

58. *Golunda ellioti* Gray

1837. *Golunda ellioti* Gray, *Mag. Nat. Hist.* (Charlesworth's), **1** : 586.

Common Name : Indian Bush Rat (E).

Diagnosis : Average length of head and body and tail 165 mm and 109 mm respectively; above reddish brown with a mixture of fawn, lighter beneath; fur fine, close and soft, with a few longer hairs projecting; head short; muzzle sharp, ears large; under parts drab grey to yellowish or whitish; tail clearly bicolor; blackish above and whitish below.

Distribution : Almost throughout the country; Extralimital : Iran, Nepal, Pakistan, Sri Lanka.

Remarks : Found only along the cultivated fields, adjacent to Ramgarh and Sonhat range of Guru Ghasidas National Park.

59. *Millardia meltada* (Gray)

1837. *Golunda meltada* Gray, *Ann. Mag. nat. Hist.*, 1 : 586.

Common Name : Soft-furred Field Rat (E).

Diagnosis : HB 100-156 mm; tail little shorter than head and body; ear shorter than hindfoot; fur soft; tail moderately to poorly haired; forefoot with four finger, outer one is shortest and hind foot with five toes; sole with 4-5 plantar pads, posterior ones much reduced; above dark brownish or greyish; feet lighter or whitish; under parts vary from dark grey to greyish white; tail bicolour, dark above and pale below.

Distribution : Throughout India except northeastern region; Extralimital : Nepal, Pakistan, Sri Lanka.

Remarks : This rat was reported to found entirely in the cultivated fields (Jerdon 1867). During the present survey it was found from a grass field very adjacent to the Kotadol range of Guru Ghasidas National park.

60. *Mus booduga* (Gray)

1837. *Leggada booduga* Gray, *Charlesworth's Mag. Nat. Hist.*, 1 : 586.

Common Names : Common Indian Field Mouse (E); Chuhiya (H).

Diagnosis : Small mice, HB 80 mm. (approx.); tail usually shorter than head and body; forefoot with four fingers and hindfoot with five; above light or dark brown or sandy; feet whitish or pale; tail bicolor, dark above, pale below; under parts light grey or whitish.

Distribution : Throughout India; Extralimital : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Only found in the cultivated fields adjacent to the National Parks.

61. *Mus musculus* Linnaeus

1758. *Mus musculus* Linnaeus, *Syst. Nat.*, 10th. Ed., 1 : 62.

Common Name : House Mouse (E); Musi, Chuhi (H).

Diagnosis : Smallish mice; head and body rarely exceed 100 mm; tail exceeds head and body length usually; hallux clawed; dark grey to dark brown above and paler below.

Distribution : Throughout India; Extralimital : Spread throughout most of the world through human agency.

Remarks : Found in the Forest Rest Houses of three National Parks.

62. *Mus platythrix* Bennett

1832. *Mus platythrix* Bennett, *Proc. Zool. Soc. London*, p. 121.

Common Name : Indian Brown Spiny Mouse (E)

Diagnosis : Medium sized or large mice; head and body more than 100 mm in length; tail shorter; forefeet with four finger and hind with five; coat colour usually dark brown; feet usually whitish; under parts normally white, with a clear line of demarcation along the sides; tail bicolour, dark above and white below.

Distribution : An Indian endemic species recorded from Andhra Pradesh, Bihar, Gujarat, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh.

Remarks : Occurred in the Ramgarh Range of Guru Ghasidas N.P.

63. *Rattus rattus* (Linnaeus)

1758. *Mus rattus* Linnaeus, *Syst. Nat.* 10th. Ed., 1 : 61.

Common Name : Black Rat (E); Chuha (H).

Diagnosis : Greyish black above, dark ashy beneath, tail longer than head and body; long piles numerous, somewhat flattened; muzzle sharper, ears oval; HB $\pm$ 190 mm; TL $\pm$ 203 mm.

Distribution : Cosmopolitan, practically throughout the country; Extralimital : Introduced worldwide in the tropics and temperate zones.

Remarks : Found in the Forest Rest Houses of all the three National Parks.

64. *Cremnomys blanfordi* (Thomas)

1881. *Mus blanfordi* Thomas, *Ann. Mag. Nat. Hist.*, 7 : 24.

Common Name : White-tailed Wood Rat (E); Chuha (H).

Diagnosis : HB 150-180cm; tail little longer; colour grey-brown above and whitish below; proximal $\frac{3}{4}$ of the tail brown and rest white, clothed with longer hair; fur soft and long.

Distribution : In the dry or moist-deciduous and evergreen forest of southern, central and eastern India, north upto West Bengal. Extralimital : Sri Lanka.

Remarks : Found in Kangerghati and Guru Ghasidas N.P.

N.B. Alfred *et al.* (2002) placed *R. blanfordi* under genus *Cremnomys*

65. *Vandeleuria oleracea* (Bennett)

1832. *Mus oleracea* Bennett, *Proc. zool. Soc. Lond.* 121.

Common Name : Indian Long-tailed Tree Mouse (E).

Diagnosis : HB 50-90mm; TL 80-110mm; tail very long; colour chestnut red, underparts white; the 1st and 5th toes on all four feet partially opposable with a flat nail.

Distribution : Almost throughout India. Extralimital : Bhutan, China, Indo-china, Indonesia, Myanmar, Nepal, Thailand, Sri Lanka, Vietnam.

Remarks : Found in all the three National Parks.

Family HYSTRICIDAE

66. *Hystrix indica* Kerr.

1792. *Hystrix indica* Kerr, *In Linnaeus, Anim. Kingdom*, p. 213.

Common Name : Indian Crested Porcupine (E); Sahi (H).

Diagnosis : HB 700-900 mm; TL 80-100 mm; length of spines 180-200 mm; a crest of long, flexible bristles present on the head; body covered with stout, cylindrical, dark brown and white banded quills.

Distribution : Throughout India. Extralimital : Bangladesh, Israel, Nepal, Pakistan, Russian Turkestan, Sri Lanka.

Remarks : Sighted in all the three National parks.

10. Order LAGOMORPHA

Family LEPORIDAE

67. *Lepus nigricollis* Cuvier

1823. *Lepus nigricollis* Curvier, *Dict. Sci. Nat.*, 26 : 307.

Common Name : Black-naped Hare (E); Khargosh (H).

Diagnosis : HB 400-500 mm or little more; coat rufous brown, mixed with black on back and face; breast and limbs rufous; chin, throat and lower parts white; upper surface of tail black or rufous brown; a black or rufous patch present on its nape.

Distribution : Throughout India; Extralimital : Bangladesh, Bhutan, Indonesia, Pakistan, Sri Lanka; introduced into Java and Mauritius.

Remarks : Found in all the three National Parks.

SUMMARY

This work has recorded 67 species under 50 genera, 26 families and 10 orders from Kangerghati, Guru Ghasidas and Sanjay National Parks.

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AVES

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INTRODUCTION

In the year 2000, a new state Chhattisgarh was declared including the districts Koriya, Surguja, Jashpur, Raigarh, Korba, Bilaspur, Kawardha, Janjgirchampa, Mahasamund, Raipur, Durg, Raj Nandgaon, Dhamtari, Kanker, Bastar and Dantewara. These districts are actually the eastern part of the undivided Madhya Pradesh and now included in the newly formed state Chhattisgarh. Guru Ghasidas and Kangerghati National Parks are situated in the Koriya and Bastar districts of Chhattisgarh respectively and Sanjay National Park is situated in the Sidhi district of Madhya Pradesh.

Many ornithologists were enlightened the field of avifaunal work of old Central Province and Madhya Pradesh. Of them prime workers are Abdulali (1968-72), Alexander (1957), Ali (1939-40, 1951, 1996), Ali and Ripley (1983), Bharos (1992a, 1992b, 1992c, 1992d, 1996), Biswas (1951), Blanford (1894), Briggs (1931), Chandra *et al.* (2006), Chandra and Singh (2004), D'Abreu (1914a, 1914b, 1915, 1922, 1931, 1934, 1935), Ghosal (1995), Hewetson (1944, 1955), Mahabal (2004), Mazumdar (1984), Natarajan and Sugathan (1987), Osmaston (1922), Pitman (1913a, 1913b) and Ripley (1982).

During the course of present study as many as 198 species of birds belonging to 18 orders and 47 families are recorded from the above mentioned National Parks. In the present chapter, classification followed after Ripley (1982) but for convenience both Ripley's scientific names and standardized scientific names of Manakadan and Pittie (2001) is given in Annexure I.

In each species, where subspecies is mentioned under the Remark, then only subspecies distribution is mentioned. But other subspecies may be distributed in other geographical regions of India.

List of Species with availability and status :

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
	Order PODICIPEDIFORMES				
	Family PODICIPEDIDAE				
1.	<i>Podiceps ruficollis</i> (Pallas)	+	+	+	
	Order PELICANIFORMES				
	Family PHALACROCORACIDAE				
2.	<i>Phalacrocorax niger</i> (Vieillot)	+	+	+	LC
	Order CICONIFORMES				
	Family ARDEIDAE				
3.	<i>Ardea purpurea</i> Linnaeus	+	-	-	LC
4.	<i>Ardeola grayii</i> (Sykes)	+	+	+	LC
5.	<i>Bubulcus ibis</i> (Linnaeus)	+	+	+	LC
6.	<i>Egretta garzetta</i> (Linnaeus)	+	+	+	LC
7.	<i>Nycticorax nycticorax</i> (Linnaeus)	+		+	LC
	Family CICONIIDAE				
8.	<i>Ciconia episcopus</i> (Boddaert)	-	-	+	LC
	Family THRESKIORNITHIDAE				
9.	<i>Threskiornis aethiopica</i> (Latham)	-	-	+	
10.	<i>Plegadis falcinellus</i> (Linnaeus)	-	+	-	LC
	Order ANSERIFORMES				
	Family ANATIDAE				
11.	<i>Mergus merganser</i> Linnaeus	-	-	+	LC
12.	<i>Anas querquedula</i> Linnaeus	+	-	+	LC
	Order FALCONIFORMES				
	Family ACCIPITRIDAE				
13.	<i>Elanus caeruleus</i> (Desfontaines)	+	+	+	LC
14.	<i>Pernis ptilorhynchus</i> (Temminck)	+	-	+	LC
15.	<i>Haliastur indus</i> (Boddaert)	+	-	-	LC
16.	<i>Accipiter badius</i> Gmelin	-	+	-	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
17.	<i>A. trivirgatus</i> (Temminck)	+	+	-	LC
18.	<i>A. nisus</i> (Linnaeus)	-	+	-	LC
19.	<i>Butastur teesa</i> (Franklin)	-	+	-	LC
20.	<i>Spizeatus cirrhatus</i> (Gmelin)	+	-	-	LC
21.	<i>Hieraaetus fasciatus</i> (Vieillot)	-	+	+	LC
22.	<i>Ichthyophaga ichthyaetus</i> (Horsfield)	-	+	-	
23.	<i>Spilornis cheela</i> (Latham)	+	+	-	LC
24.	<i>Gyps bengalensis</i> (Gmelin)	-	+	-	CR
	Family FALCONIDAE				
25.	<i>Falco peregrinus</i> Tunstall	-	-	+	LC
26.	<i>F. chicquera</i> Daudin		+	+	LC
27.	<i>F. tinnunculus</i> Linnaeus		+		LC
	Order GALLIFORMES				
	Family PHASIANIDAE				
28.	<i>Francolinus francolinus</i> (Linnaeus)	-	+	+	LC
29.	<i>F. pictus</i> (Jardine & Selby)	-	-	+	LC
30.	<i>F. pondicerianus</i> (Gmelin)	-	-	+	LC
31.	<i>Coturnix coromandelica</i> (Gmelin)	+	-	+	LC
32.	<i>Perdica asiatica</i> (Latham)	-	+	-	LC
33.	<i>P. erythrorhyncha</i> (Sykes)	+	-	-	LC
34.	<i>Galloperdix spadicea</i> (Gmelin)	-	+	+	LC
35.	<i>G. lunulata</i> (Valenciennes)	-	+	+	LC
36.	<i>Gallus gallus</i> (Linnaeus)	+	+	+	LC
37.	<i>Pavo cristatus</i> Linnaeus	+	+	+	LC
	Order GRUIFORMES				
	Family TURNICIDAE				
38.	<i>Turnix sylvatica</i> (Desfontaines)	-	-	+	LC
39.	<i>T. tanki</i> Blyth	-	+	-	LC
40.	<i>T. suscitator</i> (Gmelin)	+	-	-	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
	Family RALLIDAE				
41.	<i>Rallina eurizonoides</i> (Lafresnaye)	+	+	-	LC
42.	<i>Amaurornis phoenicurus</i> (Pennant)	+	+	-	LC
	Order CHARADRIFORMES				
	Family CHARADRIIDAE				
43.	<i>Vanellus leucurus</i> (Lichtenstein)	-	-	+	LC
44.	<i>V. indicus</i> (Boddaert)	+	+	+	LC
45.	<i>V. spinosus</i> (Linnaeus)	-	+	-	LC
46.	<i>V. malabaricus</i> (Boddaert)	-	-	+	LC
47.	<i>Pluvialis dominica</i> (P.L.S. Muller)	+	+	+	LC
48.	<i>Charadrius dubius</i> Scopoli	-	+	+	LC
49.	<i>Tringa erythropus</i> (Pallas)	-	-	+	LC
50.	<i>T. nebularia</i> (Gunner)	-	+	+	LC
51.	<i>T. ocropus</i> Linnaeus	-	+	-	LC
52.	<i>T. hypoleucos</i> Linnaeus	-	+	+	LC
	Family LARIDAE				
53.	<i>Sterna aurantia</i> J.E. Gray	-	+	-	LC
54.	<i>S. acuticauda</i> J.E. Gray	-	+	-	NT
	Order COLUMBIFORMES				
	Family COLUMBIDAE				
55.	<i>Treron bicinta</i> (Jerdon)	+	-	-	LC
56.	<i>T. phoenicoptera</i> (Latham)	-	+	+	LC
57.	<i>Ducula aenea</i> (Linnaeus)	-	+	+	LC
58.	<i>Columba punicea</i> Blyth	+	-	-	VU
59.	<i>Streptopelia orientalis</i> (Latham)	+	-	-	LC
60.	<i>S. decaocto</i> (Frisvaldszky)	+	+	+	LC
61.	<i>S. tranquebarica</i> (Hermann)	-	+	+	LC
62.	<i>Streptopelia chinensis</i> (Scopoli)	+	+	+	LC
63.	<i>S. senegalensis</i> (Linnaeus)	-	+	+	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
64.	<i>Chalcophaps indica</i> (Linnaeus) Order PSITTACIFORMES Family PSITTACIDAE	+	-	-	LC
65.	<i>Psittacula krameri</i> (Scopoli)	-	+	+	LC
66.	<i>P. eupatria</i> (Linnaeus)	-	+	+	LC
67.	<i>P. cyanocephala</i> (Linnaeus)	+	+	+	LC
68.	<i>Loriculus vernalis</i> (Sparrman) Order CUCULIFORMES Family CUCULIDAE	+	-	-	LC
69.	<i>Clamator jacobinus</i> (Boddaert)	+	+	+	LC
70.	<i>Cuculus varius</i> Vahl	+	+	+	LC
71.	<i>C. micropterus</i> Gould	+	+	+	LC
72.	<i>Cacomantis sonneratii</i> (Latham)	+	-	-	LC
73.	<i>C. passerinus</i> (Vahl)	+	-	-	LC
74.	<i>C. merulinus</i> (Scopoli)	+	-	-	LC
75.	<i>Eudynamis scolopacea</i> (Linnaeus)	+	+	+	LC
76.	<i>Rhopodytes tristis</i> (Lesson)	+	-	-	LC
77.	<i>R. viridirostris</i> (Jerdon)	+	-	-	LC
78.	<i>Toccocua leschenaulti</i> (Lesson)	-	+	-	LC
79.	<i>Centropus sinensis</i> (Stephens) Order STRIGIFORMES Family STRIGIDAE	+	+	+	LC
80.	<i>Tyto alba</i> (Scopoli)	+	+	-	LC
81.	<i>Otus scops</i> (Linnaeus)	+	+	+	LC
82.	<i>Bubo coromandus</i> (Latham)	+	+	+	LC
83.	<i>B. zeylonensis</i> (Gmelin)	+	+	-	LC
84.	<i>Glaucidium radiatum</i> (Tickell)	+	-	-	LC
85.	<i>Ninox scutulata</i> (Raffles)	-	+	+	LC
86.	<i>Athene brama</i> (Temminck)				

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
	Order CAPRIMULGIFORMES				
	Family CAPRIMULGIDAE				
87.	<i>Caprimulgus indicus</i> Latham	+	+	+	LC
88.	<i>C. macrurus</i> Horsfield	+	-	-	LC
89.	<i>C. asiaticus</i> Latham	+	-	-	LC
	Order APODIFORMES				
	Family APODIDAE				
90.	<i>Apus melba</i> (Linnaeus)	+	-	-	LC
91.	<i>Chaetura sylvatica</i> (Tickell)	+	-	+	LC
92.	<i>Hemiprocne longipennis</i> (Rafinesque)	-	+	+	LC
	Order TROGONIFORMES				
	Family APODIDAE				
93.	<i>Harpactes fasciatus</i> (Pennant)	+	-	-	LC
	Order CORACIFORMES				
	Family ALCEDINIDAE				
94.	<i>Ceryle rudis</i> (Linnaeus)	+	+	-	LC
95.	<i>Alcedo atthis</i> (Linnaeus)	+	+	+	LC
96.	<i>Pelargopsis capensis</i> (Linnaeus)	-	+	+	LC
97.	<i>Halcyon smyrnensis</i> (Linnaeus)	+	+	+	
	Family MEROPIDAE				
98.	<i>Merops leschenaulti</i> Vieillot	-	+	-	LC
99.	<i>M. philippinus</i> Linnaeus	-	+	-	LC
100.	<i>M. orientalis</i> Latham	+	+	+	LC
101.	<i>Nyctyornis athertoni</i> (Jardine & Selby)	+	-	-	LC
	Family CORACIDAE				
102.	<i>Coracias benghalensis</i> (Linnaeus)	+	+	+	LC
	Family UPUPIDAE				
103.	<i>Upupa epops</i> Linnaeus	+	+	+	LC
	Family BUCEROTIDAE				
104.	<i>Tockus birostris</i> (Scopoli)	+	+	+	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
105.	<i>Anthracosceros coronatus</i> (Boddaert)	-	+	+	NT
106.	<i>A. malabaricus</i> (Gmelin)	+	-	-	
	Order PICIFORMES				
	Family CAPITONIDAE				
107.	<i>Megalaima zeylanica</i> (Gmelin)	+	+	+	LC
108.	<i>M. haemacephala</i> (P.L.S.Muller)	+	+	+	LC
	Family PICIDAE				
109.	<i>Jynx torquilla</i> Linnaeus	-	+	+	LC
110.	<i>Picumnus innominatus</i> Burton	+	-	-	LC
111.	<i>Micropternus brachyurus</i> (Vieillot)	+	-	-	LC
112.	<i>Picus myrmecophoneus</i> (J.E. Gray & G.R. Gray)	-	-	+	LC
113.	<i>P. chlorolophus</i> Vieillot	+	-	-	LC
114.	<i>Dinopium benghalense</i> (Linnaeus)	+	+	+	LC
115.	<i>Dryocopus javensis</i> (Horsfield)	+	-	-	LC
116.	<i>Picoides macei</i> (Vieillot)	+	-	-	LC
117.	<i>P. mahrattensis</i> (Latham)	-	+	+	LC
118.	<i>P. nanus</i> (Vigors)	+	-	-	LC
119.	<i>Hemicircus canente</i> (Lesson)	+	-	-	LC
120.	<i>Chrysocolaptes festivus</i> (Boddaert)	-	+	+	LC
121.	<i>C. lucidus</i> (Scopoli)	+	-	-	LC
	Order PASSERIFORMES				
	Family PITTIDAE				
122.	<i>Pitta brachyura</i> (Linnaeus)	+	+	+	LC
	Family ALAUDIDAE				
123.	<i>Miraфра javanica</i> Horsfield	-	-	+	LC
124.	<i>Calandrella raytal</i> (Blyth)	-	+	+	LC
	Family HIRUNDINIDAE				
125.	<i>Riparia riparia</i> (Linnaeus)	-	-	+	LC
126.	<i>R. paludicola</i> (Vieillot)	-	-	+	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
	Family LANIDAE				
127.	<i>Lanius excubitor</i> Linnaeus	-	+	+	LC
128.	<i>L. vittatus</i> Valenciennes	-	+	+	LC
129.	<i>L. schach</i> Linnaeus	+	+	+	LC
130.	<i>L. cristatus</i> Linnaeus	+	+	+	LC
	Family ORIOLIDAE				
131.	<i>Oriolus oriolus</i> (Linnaeus)	+	+	+	LC
132.	<i>O. xanthornus</i> (Linnaeus)	+	+	+	LC
	Family DICRURIDAE				
133.	<i>Dicrurus adsimilis</i> (Bechstein)	+	+	+	LC
134.	<i>D. caerulescens</i> (Linnaeus)	+	+	+	LC
135.	<i>D. aenus</i> Vieillot	+	-	-	LC
136.	<i>D. hottentottus</i> (Linnaeus)	+	+	-	LC
137.	<i>D. paradiseus</i> (Linnaeus)	+	+	+	LC
	Family STURNIDAE				
138.	<i>Sturnus malabaricus</i> (Gmelin)	+	+	+	LC
139.	<i>S. pagodarum</i> (Gmelin)	+	+	+	LC
140.	<i>Acridotheres tristis</i> (Linnaeus)	+	+	+	LC
141.	<i>A. fuscus</i> (Wagler)	-	+	+	LC
142.	<i>Gracula religiosa</i> Linnaeus	+	-	-	LC
	Family CORVIDAE				
143.	<i>Dendrocitta vagabunda</i> (Latham)	+	+	+	LC
144.	<i>Corvus macrorhynchos</i> Wagler	+	+	+	LC
	Family MUSCICAPIDAE				
145.	<i>Saxicola caprata</i> (Linnaeus)	+	-	-	LC
146.	<i>Monticola cinclorhynchus</i> (Vigors)	+	-	-	LC
147.	<i>M. solitarius</i> (Linnaeus)	-	-	+	
148.	<i>Zoothera citrine</i> (Latham)	+	-	-	LC
149.	<i>Turdus unicolor</i> Tickell	+	-	-	LC
150.	<i>Macronous gularis</i> (Tickell)	+	-	-	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
151.	<i>Chrysomma sinense</i> (Gmelin)	+	+	+	LC
152.	<i>Turdoides striatus</i> (Dumont)	+	+	+	LC
153.	<i>Muscicapa parva</i> (Bechstein)	-	+	+	LC
154.	<i>M. rubeculoides</i> (Vigors)	+	-	-	LC
155.	<i>M. tickellie</i> Blyth	-	+	+	LC
156.	<i>M. thalassina</i> (Swainson)	+	+	+	LC
157.	<i>Rhipidura albicollis</i> (Vieillot)	+	-	-	LC
158.	<i>Terpsiphone paradise</i> (Linnaeus)	+	+	+	LC
159.	<i>Prinia hodgsonii</i> Blyth	-	+	+	LC
160.	<i>P. socialis</i> Sykes	+	-	-	LC
161.	<i>P. sylvatica</i> Jerdon	-	-	+	LC
162.	<i>Orthotomus sutorius</i> (Pennant)	+	+	+	LC
163.	<i>Hippolais caligata</i> (Lichtenstein)	-	+	+	LC
164.	<i>Phylloscopus collybita</i> (Vieillot)	-	+	+	LC
165.	<i>P. griseolus</i> Blyth	+	-	-	LC
166.	<i>Copsychus saularis</i> (Linnaeus)	-	+	+	LC
167.	<i>C. malabaricus</i> (Scopoli)	+	-	-	LC
	Family PARIDAE				
168.	<i>Parus major</i> Linnaeus	+	+	+	
169.	<i>P. xanthogenys</i> Vigors	+	+	+	LC
	Family SITTIDAE				
170.	<i>Sitta castanea</i> Lesson	-	+	+	LC
	Family MOTACILLIDAE				
171.	<i>Anthus hodgsoni</i> Richmond	-	-	+	LC
172.	<i>Motacilla indica</i> (Gmelin)	+	-	-	LC
173.	<i>M. flava</i> Linnaeus	+	+	-	LC
174.	<i>M. alba</i> Linnaeus	+	+	+	LC
175.	<i>M. maderaspatensis</i> Gmelin	+	+	+	LC
	Family CAMPEPHAGIDAE				
176.	<i>Hemipus picatus</i> (Sykes)	+	-	-	LC

Sl. No.	Name of species	KAN	GGD	SAN	Status IUCN (2006)
177.	<i>Tephrodornis pondicerianus</i> (Gmelin)	+	+	+	LC
178.	<i>Coracina novaehollandiae</i> (Gmelin)	+	+	+	LC
179.	<i>C. melaschistos</i> (Hodgson)	-	+	+	LC
180.	<i>Pericrocotus flammeus</i> (Forster)	+	-	-	LC
181.	<i>P. cinnamomeus</i> (Linnaeus)	+	-	-	LC
	Family IRENIDAE				
182.	<i>Aegithina tiphia</i> (Linnaeus)	-	+	+	LC
183.	<i>Chloropsis aurifrons</i> (Temminck)	+	-	-	LC
184.	<i>C. cochinchinensis</i> (Gmelin)	+	+	+	LC
	Family PYCNONOTIDAE				
185.	<i>Pycnonotus melanicterus</i> (Gmelin)	+	-	-	LC
186.	<i>P. jocosus</i> (Linnaeus)	+	-	-	LC
187.	<i>P. cafer</i> (Linnaeus)	+	+	+	LC
	Family DICAIEIDAE				
188.	<i>Dicaeum agile</i> (Tickell)	+	+	-	LC
189.	<i>D. erythrorhynchos</i> (Latham)	+	+	-	LC
	Family NECTARINIIDAE				
190.	<i>Nectarinia zeylonica</i> (Linnaeus)	+	-	-	LC
191.	<i>N. asiatica</i> (Latham)	+	+	+	LC
	Family ZOSTEROPIDAE				
192.	<i>Zosterops palpebrosa</i> (Temminck)	+	-	-	LC
	Family PLOCEIDAE				
193.	<i>Petronia xanthocollis</i> (Burton)	+	+	+	LC
194.	<i>Lonchura malabarica</i> (Linnaeus)	+	+	+	LC
195.	<i>L. striata</i> (Linnaeus)	+	-	-	LC
196.	<i>L. punctulata</i> (Linnaeus)	+	+	+	LC
	Family EMBERIZIDAE				
197.	<i>Emberiza melanocephala</i> Scopoli	+	+	-	
198.	<i>Melophus lathami</i> (Gray)	-	+	+	LC

1. Order PODICIPEDIFORMES

Family PODICIPEDIDAE

1. *Podiceps ruficollis* (Pallas)

1982. *Podiceps ruficollis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 2.

Common Name : Little Grebe (E); Pandubi, Pind (H).

Diagnosis : Length $\pm$ 23 cm; a small, squat and tail-less bird with short pointed bill and backwardly placed legs; dark brown above with darker crown; sides of head, throat and neck chestnut; underparts smoky white and base of bill yellowish green. Sexes alike.

Habitat : Aquatic : weedy ponds and jheels.

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, Madagascar, Middle East Nepal, North Africa and Pakistan.

Residential Status : Resident but moves locally.

Remarks : Observed in the ditches of Kangerghati, Guru Ghasidas and Sanjay N.P.
Subspecies : *capensis*.

2. Order PELICANIFORMES

Family PHALACROCORACIDAE

2 *Phalacrocorax niger* (Vieillot)

1982. *Phalacrocorax niger*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 10.

Common Name : Little Cormorant (E); Pan Kowwa (H).

Diagnosis : Length $\pm$ 51 cm; colour dark glossy black; slender compressed bill hooked at tip and a small white patch on neck. Sexes alike.

Habitat : Aquatic : inland waters and tidal creeks.

Distribution : Throughout India except Himalaya.

Elsewhere : Bangladesh, Bhutan, Nepal, Sri Lanka, southern Pakistan, SE Asia.

Residential Status : Resident but moves locally.

Remarks : Observed in the ditches, rivers and rivulets of Kangerghati, Guru Ghasidas and Sanjay N.P.

3. Order CICONIIFORMES

Family ARDEIDAE

3. *Ardea purpurea* Linnaeus

1982. *Ardea purpurea*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 12.

Common Name : Eastern Purple Heron (E); Lal anjan (H).

Diagnosis : Length 78-90 cm; colour slaty-purple above, chestnut and black below; crown and crest slaty-black; rest of head and long thin neck ferruginous boldly striped with black; chin and throat white; bill dark yellow; neck long and slender. Sexes alike, only female with crest and pectoral plumes less developed.

Habitat : Aquatic : Jheels, reedy lakes and rivers.

Distribution : Throughout the plains of India.

Elsewhere : Bangladesh, Bhutan, Maldives, Pakistan, SE Asia, Sri Lanka.

Residential Status : Resident but moves locally.

Remarks : Seen at Bhainsadhara in Kangerghati N.P. Subspecies : *manilensis*.

4. *Ardeola grayii* (Sykes)

1982. *Ardea grayii*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 15.

Common Name : Indian Pond Heron, Paddy Bird (E); Andha bagla (H).

Diagnosis : Length $\pm$ 46 cm; colour earthy brown streaked with yellowish buff, underparts white except the upper breast, streaked with brown; bill yellow, black at tip and bluish at base; legs horny green. Sexes alike.

Habitat : Aquatic: marshes, streams, paddy fields, ponds.

Distribution : Throughout India up to 1500m in Himalayas.

Elsewhere : Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka; from Persian Gulf to Malayasia.

Residential Status : Resident but moves locally.

Remarks : Observed in the ditches, rivers, rivulets and nearby paddy fields of Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies : *grayii*.

5. *Bubulcus ibis* (Linnaeus)

1982. *Bubulcus ibis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 16.

Common Name : Cattle Egret (E); Gai bagla (H).

Diagnosis : Length 48-53 cm; a lanky white bird with yellow bill; in breeding season golden-buff plumes appears on head, neck and back. Sexes alike.

Habitat : Aquatic : in inland waters and usually in abundance on grazing cattle.

Distribution : Throughout India up to 1500m in Himalayas.

Elsewhere : Bangladesh, Maldives, Nepal, Pakistan, Sri Lanka; SE Asia.

Residential Status : Resident but moves locally.

Remarks : Observed in the ditches of Kangerghati, Guru Ghasidas and Sanjay N.P.
Subspecies : *coromandus*.

6. *Egretta garzetta* (Linnaeus)

1982. *Egretta garzetta*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 16.

Common Name : Little Egret (E); Karchia bagla (H).

Diagnosis : Length 55-63 cm ; a white lanky bird; bill and legs black; feet yellow; in breeding season a drooping nuchal crest of two long narrow plumes develops; filamentous ornamental feathers on breast and scapulars; a thick bunch of decomposed dorsal plumes extends beyond the tail. Sexes alike.

Habitat : Aquatic: inland waters like marshes, jheels, lakes, rivers, cultivation etc.

Distribution : Throughout India up to approximately 900m altitude, excepting NW and NE region.

Elsewhere : Bangladesh, Bhutan, Maldives, Nepal, Sri Lanka, SE Asia, southern and eastern Europe; Northern and eastern Africa.

Residential Status : Resident but moves locally.

Remarks : Observed in all the aquatic systems of Kangerghati, Guru Ghasidas and Sanjay N.P. **Subspecies** : *garzetta*.

7. *Nycticorax nycticorax* (Linnaeus)

1982. *Nycticorax nycticorax*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 17.

Common Name : Night Heron (E); Kwaak, Tar Bagla (H).

Diagnosis : Length $\pm$ 58 cm; greyish with greenish black back; black on scapulars, crown, nape and crest; underparts white; sexes alike.

Habitat : Any type of water body including tidal creeks and coastal areas.

Distribution : Throughout the subcontinent.

Elsewhere : America, Europe east to Japan, south to Africa and Sunda Islands.

Residential Status : Resident but moves locally.

Remarks : Observed near the stream in Kangerghati and Sanjay N.P. Subspecies : *nycticorax*.

Family CICONIIDAE

8. *Ciconia episcopus* (Boddaert)

1982. *Ciconia episcopus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 21.

Common Name : White necked Stork (E); Laglag (H).

Diagnosis : Length $\pm$ 106 cm; a red legged black and white bird; prominent white neck, black crown and bill; naked skin of face, chin and throat slaty-black; except lower abdomen, under tail coverts and tail white. Sexes alike.

Habitat : Aquatic: in water logged grassland, irrigated fields, banks of streams and rivers, marshes in forests etc.

Distribution : Sparsely distributed in well watered parts of India.

Elsewhere : Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident.

Remarks : Only observed in the Kusmi Range of Sanjay N.P. Subspecies : *episcopus*.

Family THRESKIORNITHIDAE

9. *Threskiornis aethiopica* (Latham)

1982. *Threskiornis aethiopica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 23.

Common Name : White Ibis (E); Safed Baza (H).

Diagnosis : Length $\pm$ 75cm; a slim white bird with long decurved black bill; naked bluish-black head and neck; glossy black legs and feet; in flight, red patches on bare skin, flanks and underwing conspicuous; breeding plumage long, ornamental, placed round the neck; elongated disintegrated inner secondaries; some slaty-grey on wings. Sexes alike.

Habitat : Aquatic: rivers, marshes, flooded lands.

Distribution : In the plains of India except northwestern and eastern part.

Elsewhere : Bangladesh, China, Japan, Myanmar, Pakistan, Sri Lanka.

Residential Status : Resident and nomadic.

Remarks : Observed in Sanjay N.P. Subspecies : *melanocephala*.

10. *Plegadis falcinellus* (Linnaeus)

1982. *Plegadis falcinellus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 24.

Common Name : Glossy Ibis (E); Chhota buza (H).

Diagnosis : Length $\pm$ 52; blackish in colour; head and neck brown streaked with white; scapulars and innermost wing-coverts glossy green-blue; slender downcurved bill. Sexes alike.

Habitat : Aquatic : in marshes and river banks.

Distribution : India : Assam, Gangetic plains, Gujarat, Madhya Pradesh, Manipur, Orissa, Rajasthan, West Bengal; winters in Southern India.

Elsewhere : Bangladesh, Maldives (rare), Myanmar, Nepal, Pakistan, Sri Lanka (rare).

Residential Status : Resident but nomadic and winter visitor.

Remarks : Patchily distributed in Guru Ghasidas N.P. Subspecies : *falcinellus*.

4. Order ANSERIFORMES

Family ANATIDAE

11. *Mergus merganser* Linnaeus

1982. *Mergus merganser* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 38.

Common Name : Common Merganser (E)

Diagnosis : Length $\pm$ 68 cm; a black and white (Male) or grey and white (Female) duck; slender neck; narrow pointed red bill and red legs. *Male* : Head, upper neck and long crest of narrow feathers black mixed with metallic green, upper back glossy black; lower back, rump and upper tail coverts grey, vermiculated with white; extreme upper back lower neck and under parts white with pronounced salmon-pink tinge on under parts; tail silvery-brown. *Female* : Chin and throat white, head, crest and neck chestnut and cinnamon-brown; upper grey-brown with blue blotches; speculum and under parts white; flanks with grey stripe; legs and feet orange-red.

Habitat : Large Rivers, large lakes and fast flowing hill streams.

Distribution : Chiefly winter visitor to Pakistan and northern India south to Mumbai and Madhya Pradesh and east to Assam proper.

Elsewhere : Afghanistan, Altai, China, Nepal, northern Myanmar, Tibet and Turkestan.

Residential Status : Breeds in our limits in Ladakh above 3000m; wintering in other places.

Remarks : Observed in a pond near Sanjay N.P. (23°59' 37.0"N & 81°59' 6.78"E) and in fast flowing forest streams. Subspecies : *orientalis*.

12. *Anas querquedula* Linnaeus

1982. *Anas querquedula*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 33.

Common Name : Garganey, Blue-winged Teal (E); Patari (H).

Diagnosis : Length 37-41 cm; *Male* : colour brownish with conspicuous white eyebrows; bluish-grey forewings; head and neck pinkish brown; tail black; upper plumage blackish-brown with pale edges; scapulars long, drooping and glossy black with white median ribs; speculum green between two white bands; breast light brown, speckled black, under parts white, finely waved on sides and black spotted near vent. *Female*: Mottled brown above and white below with whitish eyebrows.

Habitat : All types of inland waters.

Distribution : Wintering throughout India high up to 4000m in Himalayas.

Elsewhere : Bangladesh, Bhutan, Maldives, Nepal, Pakistan as winter visitor and breeds across Palaearctic from U.K. to Pacific, winters south to northern Africa, southern Asia, southern China and Japan.

Residential Status : Winter visitor.

Remarks : Seen in aquatic systems of Kangerghati, and Sanjay N.P.

5. Order FALCONIFORMES

Family ACCIPITRIDAE

Bill short and strong, upper mandible longer than lower with strongly hooked tip; feet strong, furnished with powerful hooked claws; hallux present.

13. *Elanus caeruleus* (Desfontaines)

1982. *Elanus caeruleus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 40.

Common Name : Blackwinged Kite (E); Kapassi (H).

Diagnosis : Length $\pm$ 33 cm; a grey and white kite; crown, back, nape, rump and upper tail coverts grey and rest of the body white; black patches on wing shoulders are conspicuous. Sexes alike.

Habitat : Usually deciduous biotope.

Distribution : Throughout India including Lakshadweep.

Elsewhere : Bangladesh, Nepal, Pakistan west, Sri Lanka, Africa east to South Asia, Philippines and New Guinea.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies : *vociferous*.

14. *Pernis ptilorhynchus* (Temminck)

1982. *Pernis ptilorhynchus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p.41.

Common Name : Crested Honey Buzzard (E); Shahutela, Mādkare (H).

Diagnosis : Length $\pm$ 68 cm; colour variable, usually greyish brown above with dark grey head; pale brown below, narrowly cross-barred with white; a short black nuchal crest; rounded tail greyish with broad blackish subterminal and median cross-bands separated by about equally broad pale ones. Sexes alike.

Habitat : Deciduous and semi-evergreen well wooded biotope, forest glades, groves and also semi-desert areas.

Distribution : Throughout India up to 1800m in the Himalaya.

Elsewhere : Bangladesh, Pakistan, Sri Lanka, east to Tonkin and Laos and probably in SW Yunnan.

Residential Status : Resident but moves locally.

Remarks : Seen in Kangerghati, and Sanjay N.P. Subspecies : *ruficollis*.

15. *Haliastur indus* (Boddaert)

1982. *Haliastur Indus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 43.

Common Name : Brahminy Kite (E); Brahminy Cheel, Sanka Cheel, Dhobia Cheel (H).

Diagnosis : Length $\pm$ 48cm; colour bright chestnut with white head, neck, breast and upper back and abdomen brown. Sexes alike.

Habitat : Well watered country and sea coast.

Distribution : Throughout India up to 1800m in the Himalayas and Andaman Is. also.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka and east to South China, south to Tenasserim, northern Thailand and Central Vietnam.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati N.P. Subspecies : *indus*.

16. *Accipiter badius* (Gmelin)

1982. *Accipiter badius*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 44.

Common Name : Indian Shikra (E); Shikra (Female), Chipka or Cheepak (Male) (H).

Diagnosis : Length 31-36 cm; rounded winged hawk; ashy blue grey above, below barred with white and rusty brown and a long multibanded tail; a median grey stripe on throat; female larger, dark smoky brown washed with grey above.

Habitat : Open wooded biotope, hill and plain and the environs of villages and cultivation.

Distribution : Throughout India except Kerala and Assam, up to 1400 m in Himalayas.

Elsewhere : Pakistan, Nepal.

Residential Status : Resident.

Remarks : Seen in Guru Ghasidas N.P. Subspecies : *dussumieri*.

17. *Accipiter trivirgatus* (Temminck)

1982. *Accipiter trivirgatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 44.

Common Name : North Indian Crested Goshawk (E).

Diagnosis : Length 40-46 cm; upperparts dark brown with forehead, crown and small nuchal crest blackish grey; tail with four dark brown bars; underparts white, broadly streaked on breast and barred on rest of underparts with rich rufous brown; throat and under tail coverts white; female larger. Sexes more or less alike.

Habitat : Open deciduous and semi evergreen forests.

Distribution : India : From Garhwal east to NE states and south to Godavari River; up to 2000m in the Himalayas.

Elsewhere : Yunnan, Formosa, Myanmar, Thailand, Malay Peninsula and Indochinese countries.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P. Subspecies : *indicus*.

18. *Accipiter nisus* (Linnaeus)

1982. *Accipiter nisus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 45.

Common Name : Asiatic Sparrow-Hawk (E); Basha (Female), Bashin ((Male) (H).

Diagnosis : Length 31-36 cm; dark slaty upper parts; blackish head; long slender legs; a white supercilium; throat without black mesial line; four to five black bands on tail; female larger than male but more brown, less pure grey above and paler below.

Habitat : Light forest, well wooded country, groves and orchards.

Distribution : Throughout India up to 2400 m in Himalayas.

Elsewhere : Bangladesh, Nepal, Pakistan, from Turkestan to the sea of Okhotsk, Japan, North and East China south to Yangtse; migrates in winter to Indian subcontinent, Myanmar and South China.

Residential Status : Migratory.

Remarks : Seen in the Ramgarh and Rihand Range of Guru Ghasidas N.P. Subspecies : *nisosimilis*.

19. *Butastur teesa* (Franklin)

1982. *Butastur teesa*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 48.

Common Name : White-eyed Buzzard Eagle (E); Tisa (H).

Diagnosis : Length $\pm$ 43 cm; white eyed brownish hawk with three dark stripes on white throat and a third central stripe running down from chin; underparts brown mixed with white, rufous tinged tail; wings rather long. Sexes alike.

Habitat : Open deciduous forest; scrub and bush jungle and cultivation.

Distribution : Almost throughout India, up to 1200 m in Himalayas but less common in south of Madhya Pradesh.

Elsewhere : Bangladesh, Nepal, Pakistan, northern and western Myanmar south to Tenasserim.

Residential Status : Resident.

Remarks : Seen in the Sonhat Range, Guru Ghasidas N.P.

20. *Spizaetus cirrhatus* (Gmelin)

1982. *Spizaetus cirrhatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 48.

Common Name : Indian Crested Hawk-Eagle (E); Shah Baaz (H).

Diagnosis : Length $\pm$ 72 cm; upper parts brown; under parts white with narrow black longitudinal streaks on throat and broad chocolate streaks on breast; crest long, black in colour, sticking out from hind crown; long slender feathered legs; female larger. Sexes alike.

Habitat : Deciduous and semi-evergreen forest biotope.

Distribution : Throughout Peninsular India, northern limit probably up to Mt. Abu of Rajasthan and Etawah of Uttar Pradesh.

Elsewhere : Myanmar, SE Thailand.

Remarks : Observed in Kangerghati N.P. Subspecies : *cirrhatus*.

21. *Hieraaetus fasciatus* (Vieillot)

1982. *Hieraaetus fasciatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 49.

Common Name : Bonelli's or Slender Hawk Eagle (E); Morangi (H).

Diagnosis : Length 68-72 cm; upper parts dark umber-brown; under parts white to rufous-buff, streaked with black; tail dark grey above, white to buff below with a broad black band with some thinner ones; female larger. Sexes alike.

Habitat : Well wooded area, edges and outskirts of forests.

Distribution : In India, from Kashmir and Punjab to West Bengal, may be in Assam and south up to Kanyakumari; In Himalayas up to 2400 m.

Elsewhere : Bangladesh (?), Nepal, Sri Lanka, Southern Europe, south to North Africa east to southern China.

Residential Status : Resident.

Remarks : Seen in Sanjay and Guru Ghasidas N.P. Subspecies : *fasciatus*.

22. *Ichthyophaga ichthyaetus* (Horsfield)

1982. *Ichthyophaga ichthyaetus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 53.

Common Name : Greyheaded Fishing Eagle (E); Madhuya (H).

Diagnosis : Length $\pm$ 74 cm; head and neck greyish; crown, nape and upper back light brown; rest of upper part dark brown; wing quill blackish; under parts pale brown; abdomen, flanks and tail white; tail with a blackish terminal band. Sexes alike.

Habitat : Well watered, well wooded plains with sluggish streams, rivers, lakes, lagoons.

Distribution : In India, except northwestern arid and semi-arid region and high Himalayas east to Assam and south to Kerala.

Elsewhere : Bangladesh, Myanmar, Malay Peninsula, Philippines, Greater Sunda Islands, eastwards to Celebes.

Residential Status : Resident.

Remarks : Observed in the Rihand Range, Guru Ghasidas N.P. Subspecies : *ichthyaetus*.

23. *Spilornis cheela* (Latham)

1982. *Spilornis cheela*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 59.

Common Name : Lesser Crested Serpent Eagle (E); Baj (H).

Diagnosis : Length $\pm$ 74 cm; colour dark brown; round black and white nuchal crest; yellow patch at the base of bill; unfeathered yellow legs; underparts rather paler, ocellated and finely barred with white and black; tail with two broad pale bands but the second may not be so distinct. Sexes alike.

Habitat : Well watered and well wooded plains and foothill areas.

Distribution : India : South of the Gangetic plain, arbitrarily south of Lat. 25° N.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P. Subspecies : *melanotis*.

24. *Gyps bengalensis* (Gmelin)

1982. *Gyps bengalensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 55.

Common Name : Indian Whitebacked Vulture (E); Gidh (H).

Diagnosis : Length $\pm$ 90 cm; colour brownish black with naked scrawny neck and head; white ruff of soft feathers round the base of neck, broken in front by a black crop patch; white lower back; broad white band along underside of wing. Sexes alike.

Habitat : At the side of rivers or canals, populous villages and towns with livestock and tall trees.

Distribution : Throughout India up to 2500 m in high Himalaya.

Elsewhere : Bangladesh east to Yunnan, south to Siam and South Vietnam, Malay Peninsula to Penang, Pakistan.

Residential Status : Resident.

Remarks : A nest was seen on a tall Simul tree (*Terminalia tomentosa*) at the side of Kekra nallaha (23° 46' 0.39" N & 82° 11' 25.8" E) in Guru Ghasidas N.P.

Family FALCONIDAE

25. *Falco peregrinus* Tunstall

1982. *Falco peregrinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 62.

Common Name : Shaheen Falcon (E); Shaheen kahi (Female), Kohila (Male).

Diagnosis : Length 38-46 cm; slaty-black above; head and cheek black; mostly with moustachial stripe on either side of throat; under parts rusty, boldly cross-barred with black from abdomen down; female larger. Sexes alike.

Habitat : Hilly country.

Distribution : Throughout India except desert or semi-desert region; also found up to 2400 m in Himalayas and Nicobar Is.

Elsewhere : Bangladesh, Pakistan, Sri Lanka.

Residential Status : *japonensis* and *babylonicus* are migratory but *peregrinator* is resident.

Remarks : Observed in Sanjay N.P.

26. *Falco chicquera* Daudin

1982. *Falco chicquera*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 64.

Common Name : Redheaded Merlin (E); Turumti, Turumtari (H).

Diagnosis : Length 31-36 cm; female larger in size; grey and white bird with prominent chestnut head; wing quills blackish; tail grey, narrowly barred with black and a broad black band near tail end but extreme tip white. Underparts white, lightly streaked with black. Sexes alike.

Habitat : Low hilly country with deciduous forest, groves, cultivation or plateau.

Distribution : Throughout the subcontinent.

Elsewhere : East and South Africa.

Residential Status : Resident but partial migrant.

Remarks : Observed in Sanjay and Guru Ghasidas N.P. Subspecies : *chiquera*.

27. *Falco tinnunculus* Linnaeus

1982. *Falco tinnunculus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 65.

Common Name : Kestrel (E); Narzinak, Narzi (H).

Diagnosis : Length $\pm$ 36 cm; *Male*: head ashy grey with black streaks; mantle brick red; a black cheek stripe; rump and tail grey; tail tipped with white with a broad black subterminal bar; underparts buff streaked with black. *Female*: light rufous cross barred on back with black; underparts paler with dark and dense markings; little larger than male.

Habitat : From plains to hill as well as from grassland to semi-desert.

Distribution : Almost throughout India.

Elsewhere : Asia, Africa east to Japan, Philippines and Europe.

Residential Status : Migratory.

Remarks : Observed in Guru Ghasidas N.P. Subspecies *tinnunculus*.

6. Order GALLIFORMES

Family PHASIANIDAE

28. *Francolinus francolinus* (Linnaeus)

1982. *Francolinus francolinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 70.

Common Name : Black Partridge (E); Kala Teetar (H).

Diagnosis : Length $\pm$ 34 cm; *Male* : plumage jet black, scalloped, spotted and barred with white and fulvous; cheek-patch white; collar chestnut; belly and vent chestnut, rest black. *Female* : plumage pale brown, nape with dull chestnut patch; chin and throat buffy white; breast, belly and flanks wavy barred and scalloped with black and white.

Habitat : Well watered tracts with high grass and bush jungle may be with patches of cultivation like millets or sugarcane.

Distribution : India : Arunachal Pradesh, Assam, Gujarat, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Orissa, Punjab, Sikkim, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, from Cyprus east through the Middle East and Transcaucasia.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. in *Lantana camara* bush jungle.
Subspecies : *asiae*.

29. *Francolinus pictus* (Jardine & Selby)

1982. *Francolinus pictus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 70.

Common Name : Painted Partridge (E); Titur (H).

Diagnosis : Length $\pm$ 31 cm; upper parts brownish black, spotted, scalloped and finely barred with white; supercilium and face pale chestnut; underparts black heavily spotted with white; centre of abdomen and vent rufous; throat chestnut in male and usually white in female; both without spur.

Habitat : Undulating grassland, scrub jungle and bushes.

Distribution : India : Gujarat (except Kutch), southern Uttar Pradesh, northern Madhya Pradesh to extreme south.

Elsewhere : Sri Lanka.

Residential Status : Resident subject to local movement.

Remarks : Observed in Sanjay N.P. Subspecies : *pallidus*.

30. *Francolinus pondicerianus* (Gmelin)

1982. *Francolinus pondicerianus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 71.

Common Name : Indian Grey Partridge (E); Safeed Teetar (H).

Diagnosis : Length $\pm$ 33 cm; black wing and tail largely greyish brown, rufous and chestnut, mottled, barred and vermiculated with buff and black; chin and throat pale buff and rufous and a distinct gorget lying round the rufous throat; under parts buff with narrow irregular blackish brown bars which fade out towards the vent; under tail largely chestnut. Sexes alike.

Habitat : Thorny scrub jungle.

Distribution : India : Himalayan foothills to Peninsular India except NE India.

Elsewhere : Pakistan and Sri Lanka.

Residential Status : Resident.

Remarks : Observed in the bush jungle of Sanjay N.P., just near the periphery.
Subspecies : *pondicerianus*.

31. *Coturnix coromandelica* (Gmelin)

1982. *Coturnix coromandelica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 73.

Common Name : Rain Quail (E); Bater (H).

Diagnosis : Length $\pm$ 18 cm; *Male* : upper parts distinctly buff with spear-shaped streaks and irregular mottling and barring of reddish brown and black; chin and a line down centre of throat black; breast rufous buff, flanks brown longitudinally streaked with black. *Female* : chin and throat creamy buff; breast spotted with blackish.

Habitat : Grass and scrub jungle, open moist grassland as well as crop fields.

Distribution : Throughout Indian mainland.

Elsewhere : Bangladesh, Pakistan, Myanmar.

Residential Status : Resident subject to local movement.

Remarks : Observed in Kangerghati and outskirts of Sanjay N.P.

32. *Perdicula asiatica* (Latham)

1982. *Perdix asiatica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 74.

Common Name : Jungle Bush Quail (E); Lowwa (H).

Diagnosis : Length $\pm$ 17 cm; **Male** : back fulvous brown, streaked and mottled with black and buff; chin and throat bright chestnut; breast and belly white, closely barred with black; **Female** : almost like the male only under parts from breast to belly pale pinkish rufous.

Habitat : Open secondary forest in deciduous biotope as well as grass and scrub jungle.

Distribution : India : Andhra Pradesh, Bihar, Chhattisgarh, Karnataka, Madhya Pradesh, Maharashtra, Gujarat except Kutch, Orissa, Rajasthan, Tamil Nadu, and West Bengal.

Elsewhere : Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas, Kangerghati N.P. Subspecies : *asiatica*.

33. *Perdicula erythrorhyncha* (Sykes)

1982. *Perdicula erythrorhyncha*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 75.

Common Name : Northern Painted Bush Quail (E); Sirsee lowwa (H).

Diagnosis : Length $\pm$ 16; **Male** : pale olive brown, finely streaked with white and blotched with black; a narrow white band running backward from fore crown down sides of blackish head and nape; a prominent white throat patch bordered by a black loop; under parts chestnut mottled with black and white on flanks; bill and legs red; **Female** : pale and almost like male only lacking white throat patch, head stripe and black forehead.

Habitat : Forest tracts, scrub jungle and low hilly deciduous biotope.

Distribution : Peninsular India.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *blewittii*. Endemic.

34. *Galloperdix spadicea* (Gmelin)

1982. *Galloperdix spadicea*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 78.

Common Name : Red Spurfowl (E); Chhoti jangli murghi (H).

Diagnosis : Length $\pm$ 36 cm; **Male** : upper parts rufous-chestnut vermiculated with black and rufous and scalloped with greyish brown; chin whitish brown; 2-4 pointed spurs on each leg; a naked brick- red patch round the eye. **Female**: forehead sandy brown; crown and nape blackish brown; upper grayish or sandy-rufous, finely barred with black; a naked reddish patch round the eye; 1-2 pointed spurs on each leg.

Habitat : Dry and moist-deciduous scrub jungle with bamboo thickets in broken hilly country up to 1000 m high.

Distribution : India : Rajasthan, Uttar Pradesh, Nepal Terai and Bihar, south to Tamil Nadu, Karnataka and Kerala and west to Gujarat, east to Jharkhand, Orissa and Andhra Pradesh.

Elsewhere : Nepal.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies : *spadicea*.

35. *Galloperdix lunulata* (Valenciennes)

1982. *Galloperdix lunulata*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 79.

Common Name : Painted Spurfowl (E); Hutkah (Gondi=H).

Diagnosis : Length $\pm$ 32 cm; **Male** : forehead and crown metallic greenish black, stippled with white elongated drops; sides of neck and head black with white spots; upper parts chestnut marked with black bordered white ocelli; lower back may or may not provided with black stippling; scapulars and some wing coverts metallic green; breast and anterior abdomen buff, with triangular black stippling; under tail coverts chestnut. **Female** : forehead, supercilia and sides of head dark chestnut; crown black with chestnut shaft-stripes; a chestnut buff moustachial stripe from gape; upper parts dark brown tinged with olive; chin, throat and cheeks buff, mottled with chestnut; under parts olivaceous brown, paler and yellower on breast.

Habitat : Drier rockier foothills and broken terrain covered with dense thorn scrub and bamboo jungle up to 1000m elevation.

Distribution : India : South of the Gangetic plain, commoner in central and eastern part of India than western.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Endemic.

36. *Gallus gallus* (Linnaeus)

1982. *Gallus gallus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 85.

Common Name : Indian Red Jungle Fowl (E); Jangli murga (Male), Jangli murgi (Female) (H).

Diagnosis : Length $\pm$ 66 cm (male), $\pm$ 43 cm (Female); **Male** : chiefly glossy deep orange-red with long yellowish neck-hackles and similarly elongated lanceolate feathers on rump; broad, laterally compressed metallic greenish-black tail with long arching sickle-shaped central feathers; under parts almost blackish brown. **Female** : crown dull rufous; forehead and supercilia bright chestnut continued below to meet in a loop on foreneck; rest of under parts reddish brown, finely vermiculated with buff and black; under parts light rufous brown.

Habitat : Moist-deciduous and semi-evergreen forest interspersed with scrub jungle.

Distribution : India : North-eastern hill states, northern and north-central India, south-eastern up to Bastar in Chhattisgarh, Orissa and north-eastern Andhra Pradesh.

Elsewhere : Bangladesh.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas, Kangerghati, Sanjay N.P. Subspecies : *murghi*.

37. *Pavo cristatus* Linnaeus

1982. *Pavo cristatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 88

Common Name : Indian Peafowl (E), Mör (H).

Diagnosis : Length 92-122 cm without train and 2-2.5 m with train (Male), $\pm$ 86 cm (Female); **Male** : brilliantly glistening blue neck and breast and the sweeping metallic bronze-green train, boldly ocellated with purplish black centred coppery discs or eye spots conspicuous; a fan shaped crest of spatula-tipped wire-like feathers; lower back light bronze-green narrowly scalloped with black; scapulars and outer surface of wings closely barred with black and buff; wing primaries and their coverts chestnut. **Female** : smaller without sweeping train; head and nape rufous brown, rest paler; lower neck metallic green; breast buffy brown glossed with green; abdomen buffy white; primaries brown.

Habitat : Moist and dry deciduous forest, cultivation.

Distribution : Whole of India up to 1800 m high.

Elsewhere : Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

7. Order GRUIFORMES

Family TURNICIDAE

38. *Turnix sylvatica* (Desfontaines)

1982. *Turnix sylvatica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 89.

Common Name : Little Bustard Quail (E); Chhota lowwa (H).

Diagnosis : Length $\pm$ 13 cm (Male), female little larger; a three toed bird with distinct pointed little tail; crown blackish brown with a white median line; hindneck ferruginous, scalloped with buff; rest of upper parts irregularly bared with rufous and black; breast brownish buff with black and chestnut spots on the sides, rest whitish. Sexes almost alike.

Habitat : Grass and scrub jungle.

Distribution : Throughout India up to 2400 m in Himalaya.

Elsewhere : Bangladesh, Myanmar and Nepal.

Residential Status : Resident.

Remarks : Observed in the outskirts of Sanjay N.P. Subspecies : *dussumier*.

39. *Turnix tanki* Blyth

1982. *Turnix tanki* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 89.

Common Name : Indian Yellow-legged Button Quail (E), Lowwa (H).

Diagnosis : Length $\pm$ 15 cm (Male), female little larger; *Male* : greyish brown, regularly cross-barred and vermiculated with black; wing coverts buff, spotted with black; chin and throat whitish; breast rusty-brown, sides with black spot; *Female* : only difference with male in having a broad orange-rufous half collar on back and sides of neck.

Habitat : Dumpy grassland, low scrub jungle and standing crop fields.

Distribution : Almost throughout India.

Elsewhere : Bangladesh, Pakistan.

Residential Status : Resident.

Remarks : It is mostly observed in the outskirts of the National Parks as well as in the peripheral region but not in deep inside. It was seen near Suktara Beat, Mazgama circle of Sonhat Range of Guru Ghasidas N.P.

40. *Turnix suscitator* (Gmelin)

1982. *Turnix suscitator*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 90.

Common Name : Indian Bustard Quail (E); Gulu (H).

Diagnosis : Length $\pm$ 15 cm (Male), female little larger; toes three in number. *Male* : crown dark brown with an indistinct pale central streak; sides of head white, stippled with black; rest of upper parts variegated rufous-brown, black and white with the wing-coverts boldly spotted with black and buff; chin and throat whitish and rest of under parts rusty buff banded with black on foreneck and breast. *Female* : upperparts like male but rich in colour; under parts mostly buff; chin, throat, foreneck and centre of breast black; sides of breast and anterior flanks barred with black.

Habitat : Open light deciduous forest, grassland and scrub jungle.

Distribution : Whole of continental and peninsular India.

Elsewhere : East China, Nepal, Sri Lanka to SE Asia.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati N.P. Subspecies *taigoor*.

Family RALLIDAE

41. *Rallina eurizonoides* (Lafresnaye)

1982. *Rallina eurizonoides*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 94.

Common Name : Indian or Slatylegged Banded Crane (E);

Diagnosis : Length $\pm$ 25 cm; head, neck and breast chestnut; remaining upper parts rufous brown; bill green, terminal half of upper mandible and tip of lower dark brown; chin and throat white; under parts with striking black and white bands; legs slaty. Sexes alike.

Habitat : Variety of forest habitats in well wooded and well watered tracts.

Distribution : Throughout India up to 1600 m in Himalaya.

Elsewhere : Nepal, Myanmar, Sri Lanka, SE Asia.

Residential Status : Resident but moves locally.

Remarks : Seen on the banks of the Kanger and Gopad rivers of Kangerghati and Guru Ghashidas N.P. respectively. Subspecies : *amauroptera*.

42. *Amaurornis phoenicurus* (Pennant)

1982. *Amaurornis phoenicurus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 97.

Common Name : Chinese White breasted Waterhen (E); Dawak (H).

Diagnosis : Length $\pm$ 32 cm; forehead, supercilia and sides of head white; rest of upper parts dark slaty grey; chin to vent white; sides of breast and flanks slaty grey; posterior flanks, vent and under tail coverts rufous. Sexes alike.

Habitat : Inundated fields, reedy marshland, pools etc.

Distribution : Throughout India up to 1500 m in Himalayas.

Elsewhere : Bangladesh, Bhutan, Sri Lanka, SE Asia.

Residential Status : Resident.

Remarks : Observed in the Kangerghati and Guru Ghasidas N.P. Subspecies : *phoenicurus*.

8. Order CHARADRIIFORMES

Family CHARADRIIDAE

43. *Vanellus leucurus* (Lichtenstein)

1982. *Vanellus leucurus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 110.

Common Name : Whitetailed Lapwing (E). Titri (H).

Diagnosis : Length 26-29 cm; a light brown and white Lapwing with black bill and long prominent yellow legs; forehead and indistinct supercilia greyish white; upper plumage light brown; rump and tail white; chin, throat and foreneck ashy-grey; breast dark grey; abdomen and under tail-coverts rosy-white; primaries black and white patch on secondaries in flight conspicuous. Sexes alike.

Habitat : Usually marshes and jheels but also in river banks.

Distribution : In winter visits northwestern India; east to Uttar Pradesh, northern Madhya Pradesh, Bihar and West Bengal in smaller number.

Elsewhere : Bangladesh, Nepal, Pakistan; breeds in Kirghiz Steppes, Transcaspia, parts of Syria, Iraq and Iran and also migrates in winter to Egypt and Sinai.

Residential Status : Migratory.

Remarks : Though likely to visit grassy banks of marshes and jheels yet in the Sanjay N.P., a small flock of 9 birds were seen on the islets of Mahann river and on its bank covered with thin grass jungle.

44. *Vanellus indicus* (Boddaert)

1982. *Vanellus indicus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 111.

Common Name : Redwattled Lapwing (E); Titeeri (H).

Diagnosis : Length $\pm$ 33 cm.; bronze-brown above, white below; head, neck and breast black; a crimson fleshy wattle in front of each eye; a prominent broad white band running from behind the eyes down to sides of neck and ultimately meet with white under parts; having black tipped red bill and yellow legs. Sexes alike.

Habitat : Neighbourhood of water, chiefly near tanks, ditches, open river banks, puddles etc.

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka, North Africa and Middle East.

Residential Status : Resident; migrates locally and altitudinally in spring and autumn.

Remarks : Observed in all the three National Parks, even on the dry forest roads.
Subspecies : *indicus*.

45. *Vanellus spinosus* (Linnaeus)

1982. *Vanellus spinosus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 112.

Common Name : Spurwinged Lapwing (E).

Diagnosis : Length $\pm$ 33 cm; forehead, crown and occipital crest black; upper parts mainly vinous grey and sandy brown; upper tail coverts and tail white, the latter with its terminal half black; central secondaries white; chin, throat and patch on abdomen black bordered with white; upper breast vinous grey; rest of under parts white; bill black; legs and feet reddish black; a well developed pointed spur on the wing; Sexes alike.

Habitat : Usually on sand banks, pebble beds and islands of flowing rivers.

Distribution : India : Assam in the east up to Uttar Pradesh in the west and south to Madhya Pradesh and in Sikkim up to 900 m high.

Elsewhere : Bangladesh, Bhutan, Nepal and SE Asia.

Residential Status : Resident but moves seasonally.

Remarks : A single bird was observed on an islet in the Bijadhur river at night in the Guru Ghasidas N.P. Subspecies *duvaucelii*.

46. *Vanellus malabaricus* (Boddaert)

1982. *Vanellus malabaricus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 112.

Common Name : Yellow wattled Lapwing (E); Zirdi (H).

Diagnosis : Length $\pm$ 27 cm; lanky bird, sandy-brown in colour, belly white, black cap surrounded by a thin white line on head, bright yellow bare skin in front and above the eyes; legs yellow; tail white with a broad black terminal band; chin and throat black, breast sandy brown; rest of under parts white separated from breast by a thin black line. Sexes alike.

Habitat : Less dependent on water, moves from river banks, jeel sides to waste land and fallow fields also.

Distribution : Throughout India.

Elsewhere : Bangladesh, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident with nomadic movement.

Remarks : Observed in the Sanjay N.P.

47. *Pluvialis dominica* (P.L.S. Müller)

1982. *Pluvialis dominica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 113.

Common Name : Eastern Golden Plover (E); Chhota batan (H).

Diagnosis : Length $\pm$ 24 cm; colour golden-yellow with mottled brown and white; under parts whitish, breast mottled with brown, grey and yellow and grey axillaries; thick rounded head and short pigeon like bill, swollen at base. Sexes alike.

Habitat : Jheels, coastal lagoons, ploughed field, mud flats, flowing river banks.

Distribution : Wintering throughout the subcontinent.

Elsewhere : Breeds in eastern Asia and North America and wintering in southern Asia, Oceania and South America.

Residential Status : Migratory.

Remarks : Observed in all the three National Parks on the sand beds of flowing rivers and rivulets.

48. *Charadrius dubius* Scopoli

1982. *Charadrius dubius*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 115.

Common Name : Little Ringed Plover (E); Zirrea, Kola Katij (H).

Diagnosis : Length 14-17 cm; back sandy- brown; forecrown black; a black band from lores through eye to ear-coverts; a double collar on hind neck (upper white and lower black); under parts white with a black pectoral band. Sexes alike.

Habitat : Shingle beds of rivers, sea shore and mudflats.

Distribution : India : The Subspecies : *curonicus* breeds in Kashmir and Quetta valley as well as possibly in Ladakh and NE Pakistan; winter visitor to the rest of the subcontinent including Andaman Is. The Subspecies : *jerdoni* is distributed throughout the subcontinent.

Elsewhere : Sri Lanka and Maldives.

Residential Status : Partly migratory.

Remarks : Observed on the stone pebbles of Mahan river of Sanjay N.P. and on the banks of Rihand river of Guru Ghasidas N.P.

49. *Tringa erythropus* (Pallas)

1982. *Tringa erythropus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 118.

Common Name : Spotted Red Shank (E); Batan (H).

Diagnosis : Length 29-32 cm; in winter, upper back, crown and hind neck ashy brown; white supercilia from base of bill; bill straight and slender; long legs, orange red; lower back, rump and upper tail coverts white; wings mottled and barred with white; tail ashy brown, barred with white on edges; under parts white, indistinctly spotted and mottled. Sexes alike.

Habitat : Muddy banks of jheels and tanks and shallow water of lakes and rivers.

Distribution : Wintering almost throughout India, including Kashmir, except far east and high Himalayas, where scarce.

Elsewhere : Bangladesh, Nepal, Pakistan, Sri Lanka. Breeds in Scandinavia and northern Asia, winters in Mediterranean, Africa, South and SE Asia.

Residential Status : Migratory.

Remarks : Seen in the Ponri Range of Sanjay N.P.

50. *Tringa nebularia* (Gunner)

1982. *Tringa nebularia*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 119.

Common Name : Greenshank (E); Timtima (H).

Diagnosis : Length 30-34 cm; in winter colour dark greyish-brown above and white below; forehead, lowerback, rump and tail white; tail with faint, almost invisible barring; greyish on foreneck and sides of head. Sexes alike.

Habitat : River banks, marshes, puddles, tanks, jheels, paddy fields, lagoons *etc.*

Distribution : Wintering throughout India including Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka. Breeds in northern Europe and across North Asia south to 55° N and winters in the Mediterranean, Middle East, South Africa, South and Southeast Asia up to Australia and Newzealand.

Residential Status : Migratory.

Remarks : Observed on the sand banks of the flowing rivers in Guru Ghasidas and Sanjay N.P.

51. *Tringa ocropus* Linnaeus

1982. *Tringa ocropus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 120.

Common Name : Green Sandpiper (E).

Diagnosis : Length 21-24 cm; in winter, head and neck ashy brown; rest of upper parts dark brown with green bronze sheen; tail white with faint blackish terminal bars; under parts white with fine brown streaks on throat, breast and flanks. Sexes alike.

Habitat : Marshes, ponds, small streams in the hills.

Distribution : Wintering throughout India up to 2000 m in the hills as well as Andaman Is.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka. Breeds in the northern Europe and Asia, north to Arctic Circle up to 68° N. Winters in Britain, Mediterranean, South Africa, South and SE Asia.

Residential Status : Migratory.

Remarks : Observed on the bank of Lodhar river of Guru Ghasidas N.P.

52.. *Tringa hypoleucos* Linnaeus

1982. *Tringa hypoleucos*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 121.

Common Name : Common Sandpiper (E).

Diagnosis : Length 19-21cm; in winter, olive-brown above and white below; ashy-brown on head and sides of neck; supercilia pale and indistinct; rump and tail brown with only the outer tail-feathers white; breast streaked with light brown; a prominent small white patch dividing band of wing from side of breast. Sexes alike.

Habitat : Streams, rivers, fresh water bodies, lagoon and sea-shore.

Distribution : Breeds as resident in higher elevations of Kashmir, Ladakh and Garhwal where commonly breeds between 1800-3200 m; wintering throughout India.

Elsewhere : Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka. Breeds throughout Europe and Asia south of Tundra, winters in Africa, SE Asia, Malaya Archipelago to Australia.

Residential Status : Migratory.

Remarks : Observed on the river banks of Guru Ghasidas and Sanjay N.P.

Family LARIDAE

53. *Sterna aurantia* J.E. Gray

1982. *Sterna aurantia* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 137.

Common Name : Indian River Tern (E); Machh louka, Koorari (H).

Diagnosis : Length 38-46 cm; slender bird, upper parts pale grey and under parts white; crown and nape flecked and streaked with black; in breeding season, forehead, crown, nape down to below the eyes become glossy jet black; a horizontal crescentic white patch below the eyes; wings long, narrow and pointed, tail deeply forked; legs short and red in colour; bill pointed and yellow in colour. Sexes alike.

Habitat : Rivers, estuaries and pools.

Distribution : Almost throughout India but common in plains except the peninsular region, rare in seaboard.

Elsewhere : Bangladesh, Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed on Gopad and Neur River of Guru Ghasidas N.P.

54. *Sterna acuticauda* J.E. Gray

1982. *Sterna acuticauda*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 139.

Common Name : Black bellied Tern (E); Tehari, Ganga Cheel (H).

Diagnosis : Length $\pm$ 33 cm; ashy-grey above, black below; forehead, crown, nape and crest glossy black; lores, cheek, chin and throat white; long deeply forked tail; Sexes alike. Winter plumage differs in having white head (upper part), streaked with black and with a black patch behind eye; under parts white tinged with grey on foreneck and breast.

Habitat : Essentially in inland waters.

Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Thailand, western Indochina.

Residential Status : Resident.

Remarks : Observed on Gopad and Neur Rivers of Guru Ghasidas N.P.

9. Order COLUMBIFORMES

Family COLUMBIDAE

55. *Treron bicincta* (Jerdon)

1982. *Treron bicincta*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 147.

Common Name : Orange-breasted Green Pigeon (E); Harial (H).

Diagnosis : Length $\pm$ 29; *Male* : back deep green, head light yellow, breast with a lilac band followed by orange on lower breast; under parts yellowish green; under tail coverts cinnamon edged with pale yellow on the outer and longest feathers; tail slaty-grey above with a broad blackish subterminal band, black below with a grey tip. *Female* : back olive yellow; under parts yellowish green, lacking lilac and orange breast.

Habitat : Evergreen and moist deciduous biotope.

Distribution : India : In lower Himalayas up to 1500 m, from Uttar Pradesh Terai east to Arunachal Pradesh and Manipur, West Bengal, Eastern Ghats and Western Ghats from Belgaum southwards.

Elsewhere : Bangladesh, Bhutan, Hainan, Java, Malay Peninsula, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam.

Residential Status : Resident with seasonal movement.

Remarks : Observed in Kangerghati N.P.

56. *Treron phoenicoptera* (Latham)

1982. *Treron phoenicoptera*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 148.

Common Name : Green Pigeon (E); Harial (H).

Diagnosis : Length $\pm$ 33 cm; Subspecies *phoenicoptera* : greenish grey back with markedly greenish yellow forehead, red shoulder patch and yellow legs and neck; lower breast, belly and flanks grey. Subspecies *chorigaster* : olive-green and ashy grey above, bright yellow below; a lilac patch on wing shoulder; a conspicuous yellow band across the blackish wings; legs yellow or reddish yellow. Sexes alike, but female rather duller.

Habitat : Dry and moist-deciduous forests, groves *etc.*

Distribution : India.

Elsewhere : Bangladesh, Pakistan, Indochinese subregion.

Residential Status : Resident, moves locally with the availability of food.

Remarks : Observed in all the three National Parks.

57. *Ducula aenea* (Linnaeus)

1982. *Ducula aenea*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 149.

Common Name : Green Imperial Pigeon (E); Bada Harial (H).

Diagnosis : Length $\pm$ 43; Subspecies *sylvatica*: pinkish grey with bright metallic bronze-green back and tail; under tail coverts chestnut-maroon. Subspecies *pusilla* : usually little smaller than *sylvatica*; wing generally less than 215 mm and under tail coverts duller; iris red, bill white at tip and reddish on basal half and cirri; legs reddish. Sexes alike.

Habitat : Evergreen and moist-deciduous forests.

Distribution : India throughout.

Elsewhere : Bangladesh, Nepal (?), Myanmar to central Tenasserim, northern Thailand and Indochinese countries.

Residential Status : Resident but moves locally with the availability of food.

Remarks : Subspecies *sylvatica* was observed in Guru Ghasidas and Sanjay N.P. and Subspecies *pusilla* was observed in Kangerghati N.P.

58. *Columba punicea* Blyth

1982. *Columba punicea* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 153.

Common Name : Purple Wood Pigeon (E).

Diagnosis : Length $\pm$ 36 cm; **Male** : crown and nape greyish white, upper parts rich chestnut-brown with dark slaty rump and blackish brown tail; under parts vinous-chestnut; entire plumage glossed with brilliant metallic green. **Female** : smaller and duller than male; head brownish-grey glossed with lilac.

Habitat : Forested tracts with wooded ravines, thick undergrowth and scrub jungle.

Distribution : India : Assam, Chhatishgarh, Jharkhand, Manipur, Nagaland, Orissa, West Bengal and may be in Mizoram.

Elsewhere : Bangladesh, Laos, Myanmar, northern Malay, Thailand and Central Vietnam.

Residential Status : Resident and patchily distributed.

Remarks : Observed in Kangerghati N.P.

59. *Streptopelia orientalis* (Latham)

1982. *Streptopelia orientalis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 154.

Common Name : Rufous Turtle Dove (E).

Diagnosis : Length $\pm$ 33 cm; colour reddish brown with scaly-patterned upper parts; black chess board like markings on the sides of the neck. Sexes alike.

Habitat : Mixed deciduous forest.

Distribution : Indian subcontinent.

Residential Status : *Subspecies meena* migrates in winter to peninsular India and *agricola* and *erythrocephala* are resident but moves locally.

Remarks : Only once the bird was observed in Kangerghati N.P. in winter and not identified up to subspecific level.

60. *Streptopelia decaocto* (Frisch)

1982. *Streptopelia decaocto*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p.155.

Common Name : Indian Ring Dove (E); Gugi (H).

Diagnosis : Length $\pm$ 32 cm; entire plumage pale greyish-brown; hind neck with a narrow black half collar; edges of outer rectrices and central pair blackish; broad white terminal edge to blackish tail; bill brownish-black; legs and feet dark pinkish red. Sexes alike.

Habitat : Deciduous biotope.

Distribution : Throughout the Indian mainland up to $\leq$ 2400 m altitude.

Elsewhere : Bangladesh, Nepal (occasional post monsoon visitor), Pakistan, Sri Lanka, from Hungary over SE Europe, Asia Minor, Turkestan, northern China, Japan, South to Palestine, Iraq, Persia and western China, Great Britain and north to Scandinavia.

Residential Status : Resident subject to marked local movement.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *decaocto*.

61. *Streptopelia tranquebarica* (Hermann)

1982. *Streptopelia tranquebarica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 156.

Common Name : Indian Red Turtle Dove (E); Girwi-fakhta (H).

Diagnosis : Length $\pm$ 23 cm; *Male* : head and nape ashy-grey, with a black collar round the hind neck; mantle vinous-red, wings grey, lower back, rump and upper tail coverts dark slaty-grey; tail brownish and grey; under parts reddish; chin and vent whitish, under tail coverts white, flanks grey. *Female* : Pale brown and grey in colour.

Habitat : Deciduous biotope with open scrub jungle.

Distribution : India : East up to Bihar, Jharkhand and south through peninsular India up to Chennai and Mysore; in Himalayas usually under $\leq$ 800 m altitude.

Elsewhere : Nepal (?), Pakistan, Sri Lanka (rare).

Residential Status : Resident subject to marked local movement.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *tranquebarica*.

62. *Streptopelia chinensis* (Scopoli)

1982. *Streptopelia chinensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 156.

Common Name : Indian Spotted Dove (E); Panduk (H).

Diagnosis : Length $\pm$ 30 cm; back pinkish brown; head grey; hind neck and upper back with a conspicuous black and white 'chess board'; chin vinous-grey, paler on throat; belly, vent and under tail coverts white; bill dark horny or plumbeous brown; legs and feet bright magenta. Sexes alike.

Habitat : Dry and moist deciduous biotope.

Distribution : Throughout India usually up to $\leq$ 2400 m altitude in Himalaya.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *suratensis*.

63. *Streptopelia senegalensis* (Linnaeus)

1982. *Streptopelia senegalensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 157.

Common Name : Indian Little Brown Dove (E); Chhota fakhta (H).

Diagnosis : Length $\pm$ 27 cm; head pink; back earthy brown; wings with grey patches; 'chess board' like black and rufous markings on either side of foreneck; throat and breast pinkish brown; belly and vent white. Sexes alike.

Habitat : Dry-deciduous biotope.

Distribution : Throughout Indian Union.

Elsewhere : Pakistan.

Residential Status : Resident, movement noticed but not clear.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *cambayensis*.

64. *Chalcophaps indica* (Linnaeus)

1982. *Chalcophaps indica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 157.

Common Name : Indian Emerald Dove (E); Andi bellaguvva (H).

Diagnosis : Length $\pm$ 27 cm; brownish pink in colour with brilliant bronzed emerald-green upper parts; crown and neck grey with prominent white forehead and eyebrows, and a band of white-fringed feathers across lower back; a white bordered vinous grey patch on wing-shoulder; rump grey; tail greyish brown with a broad black cross band, broken in the middle; bill coral red; legs reddish. Sexes alike.

Habitat : In evergreen and moist deciduous biotope, preferably with bamboo thickets.

Distribution : Throughout Indian Union, patchy distribution up to $\leq$ 1800 m altitude.

Elsewhere : Bangladesh, Bhutan, Indochinese countries, Indonesia, Malay Peninsula, Myanmar, Nepal, Philippines.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *indica*.

10. Order PSITTACIFORMES**Family PSITTACIDAE****65. *Psittacula krameri* (Scopoli)**

1982. *Psittacula krameri*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 159.

Common Name : Roseringed Parakeet (E); Tota (H).

Diagnosis : Length $\pm$ 42 cm; plumage grass green with a long pointed tail; bill deeply hooked and red; male having a rose pink and black collar but female lacks it and instead of that collar there is an indistinct emerald green ring round the neck.

Habitat : Moist and dry deciduous biotope, thin jungle, orchards, cultivation and human environment.

Distribution : Almost throughout the country.

Elsewhere : Central Africa from Lake Chad and Guinea east through Ethiopia, Mauritius, Muscat, Pakistan, Bangladesh and east to southeastern China.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay and Kangerghati N.P.

66. *Psittacula eupatria* (Linnaeus)

1982. *Psittacus eupatria*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 158.

Common Name : Large Indian Parakeet (E); Hiran Tota (H).

Diagnosis : Length $\pm$ 53 cm (Male), female little shorter; totally grass green in colour with a long pointed tail and stout deeply hooked red bill; wing shoulders deep red; a prominent rose pink collar around neck and a broad black band from lower mandible to the rose collar; in female, the rose pink collar and black mandibular stripe absent;

Habitat : Dry and moist-deciduous biotope, forest and well wooded country.

Distribution : Throughout Indian union in suitable habitat normally up to $\leq$ 800 m altitude.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident but moves locally.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

67. *Psittacula cyanocephala* (Linnaeus)

1982. *Psittacus cyanocephalus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 161.

Common Name : Blossom headed Parakeet (E); Tuiya tota (H).

Diagnosis : Length $\pm$ 36 cm; grass or yellowish green parakeet; male having bluish red head and a black and verdigris collar and a maroon-red patch on wing shoulder; broad white tip to the narrow, blue, central tail feathers; female has duller and greyer head, surrounded by a bright yellow collar.

Habitat : Moist-deciduous biotope, well wooded country, light forest, cultivation up to $\leq$ 1300 m altitude.

Distribution : From lower Himalayas south to Peninsular India, except desert and semidesert areas.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

68. *Loriculus vernalis* (Sparman)

1982. *Loriculus vernalis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 163.

Common Name : Indian Lorikeet (E); Latkan (H).

Diagnosis : Length $\pm$ 14 cm; bright grass green in colour; tail short and square; rump rich crimson; bill reddish orange or coral red, yellow at tip; legs and feet pale orange or pale yellowish slate; a small blue patch on throat of male.

Habitat : Evergreen and moist-deciduous forest.

Distribution : India : East Himalayan foothills, northeastern hill states; the Indian peninsula in Eastern Ghats and Western Ghats from Thane district ($\approx$ 19° N Lat.) south through Karnataka, Kerala and Tamil Nadu; Andaman and Nicobar Islands.

Elsewhere : Arakan, central and southern Myanmar to Tenasserim, Thailand and the Indochinese countries.

Residential Status : Resident but moves locally.

Remark : Observed in Kangerghati N.P.

11. Order CUCULIFORMES

Family CUCULIDAE

69. *Clamator jacobinus* (Boddaert)

1982. *Clamator jacobinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 164.

Common Name : Pied Crested Cuckoo (E); Papiya (H).

Diagnosis : Length $\pm$ 33 cm; a slender long-tailed, crested black and white bird – black above and white below; a white patch on the black wings; white tips to the black graduated tail feathers. Sexes alike.

Habitat : Dry and moist deciduous lightly wooded biotope.

Distribution : India : With the on set of southwest monsoon it arrives over most of its Indian range except the drier parts and stays up to the end of monsoon period, from northern India south to peninsular India up to $\approx$ 18° N Lat. and high up to $\approx$ 2600 m.

Elsewhere : Africa south of the Sahara in winter and in Bangladesh and Pakistan in summer.

Residential Status : Migratory.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *serratus*.

70. *Cuculus varius* Vahl

1982. *Cuculus varius*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 165.

Common Name : Common Hawk Cuckoo, Brain fever bird (E); Kapak (H).

Diagnosis : Length $\pm$ 34 cm; above ashy-grey, tail long with 4-5 rufous white black bars and the terminal one broadest; under parts white with ashy and rufous on breast and barred with brownish on abdomen and flanks. Sexes alike.

Habitat : Deciduous and semi-evergreen forest, groves and gardens.

Distribution : India : Throughout the entire subcontinent from lower Himalayas to Kanyakumari and west from Punjab to NE India; a rain straggler in Rajasthan and semi-desert portions of Gujarat.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident but subject to local migratory and nomadic movements during the rainy season.

Remarks : Found in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *varius*.

71. *Cuculus micropterus* Gould

1982. *Cuculus micropterus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 166.

Common Name : Indian Cuckoo (E).

Diagnosis : Length $\pm$ 33 cm; dark brownish slaty-grey above; pale ashy and white below, cross-barred with broad black bands; and a broad black subterminal band on tail; upper mandible horny brown, lower greenish-brown, yellow at chin and gape; legs and feet yellow.

Habitat : Deciduous and evergreen biotope.

Distribution : India : From lower Himalayas southwards to the extreme south excluding the arid portion of western India and east to northeastern region, also in Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan (except the arid region), Sri Lanka.

Residential Status : Resident but with nomadic or seasonal movement at rainy season and winter.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *micropterus*.

72. *Cacomantis sonneratii* (Latham)

1982. *Cacomantis sonnerati*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 168.

Common Name : Indian Baybanded Cuckoo (E).

Diagnosis : Length $\pm$ 24 cm; above, rufous or bay coloured conspicuously crossbarred with brown; under parts and sides of head and neck, whitish with fine wavy brown cross bars; tail almost rufous tipped with white and sub-tipped with black; bill horny black, olive-grey at base of lower mandible; legs and feet greyish green.

Habitat : Deciduous and evergreen biotope.

Distribution : India : Widely moves throughout India particularly in the rainy season, sparse in the north up to $\leq$ 2400 m in the Himalayas and rather common in the peninsula excepting the heavy rainfall area.

Elsewhere : Bangladesh, Bhutan, Nepal, Myanmar south to Tenasserim, Thailand and Vietnam.

Residential Status : Status unclear, most probably resident and nomadic with seasonal migratory movement.

Remarks : Observed in Kangerghati, N.P. Subspecies *sonneratii*.

73. *Cacomantis passerinus* (Vahl)

1982. *Cacomantis passerinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 168.

Common Name : Indian Plaintive Cuckoo (E).

Diagnosis : Length $\pm$ 23 cm; upper parts dark grey; chin, throat and breast grey; abdomen pale grey and whitish on vent; tail blackish grey with white tip and the outer rectrices obliquely barred with white but sometimes total dark ashy in colour. Female dimorphic; in hepatic or reddish phase: bright chestnut-bay upper parts and throat, cross-barred with black on back, and with finely black-barred white under parts.

Habitat : Light open forest, garden, groves and cultivation.

Distribution : India : Throughout Indian mainland up to $\leq$ 2700 m in Himalayas and $\leq$ 1800 m in peninsular hills excepting western Rajasthan, northern Gujarat and Kutch.

Elsewhere : Bangladesh, Bhutan, Maldives Islands, Nepal and Sri Lanka.

Residential Status : Not clear but evidently resident in some parts of the country and nomadic or local migrant in others.

Remarks : Observed once in winter 2004 in Kangerghati N.P.

74. *Cacomantis merulinus* (Scopoli)

1982. *Cacomantis merulinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 168.

Common Name : Rufousbellied Plaintive Cuckoo (E).

Diagnosis : Length $\pm$ 23 cm; ashy-grey and brown in colour; tail white tipped and barred with blackish-grey; under parts from breast down, rufous buff to rusty red; female dimorphic with hepatic or reddish phase.

Habitat : Light open forest, scrub jungle, garden, groves and plantations.

Distribution : India : NE hill states, West Bengal; from lower Himalayas to $\leq$ 2000 m in NE and west to Sikkim; in winter moves to eastern peninsular India west to $\leq$ 81° E south to $\leq$ 15° N.

Elsewhere : Bhutan, Hainan, Indochinese countries to the northern Malay states, Myanmar, Nepal, Thailand, Yunnan to Fukien.

Residential Status : Not clearly known; locally resident, nomadic and migratory.

Remarks : Observed in Kangerghati N.P.

75. *Eudynamys scolopacea* (Linnaeus)

1982. *Eudynamys scolopacea*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 170.

Common Name : Indian Koel (E); Koel (H).

Diagnosis : Length $\pm$ 43 cm; **Male** : glistening metallic black; yellowish green bill; crimson eyes; legs and feet plumbeous; **Female** : colour dark brown, profusely white-spotted and barred; tail feathers and wing quills barred with white; under parts spotted on chin, throat and foreneck, barred on rest of under parts with black.

Habitat : Lightly wooded forest, gardens, orchards, cultivation, towns and villages.

Distribution : Almost throughout India except northeastern region, rare in western Rajasthan, northern Gujarat.

Elsewhere : Bhutan, Maldives Islands, Nepal, Pakistan, and Sri Lanka.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *scolopacea*.

76. *Rhopodytes tristis* (Lesson)

1982. *Rhopodytes tristis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 171.

Common Name : Large Greenbilled Malkoha (E).

Diagnosis : Length $\pm$ 51 cm, (tail $\pm$ 38 cm); forehead grey with shiny bristly black shafts; upper parts dark ashy-grey with deep green gloss; tail, green-glossed black, long, broad, steeply graduated, the rectrices cross-rayed darker and broadly tipped with white; chin, throat and sides of head yellowish ashy-grey, dark on lower abdomen and vent; feathers of chin, throat and breast with black bristly shafts; naked crimson orbital patch, yellowish green bill, long graduated rectrices with broad white tips, legs and feet plumbeous.

Habitat : Dense evergreen and moist deciduous biotope.

Distribution : India : Lower Himalayas from Garhwal to Arunachal Pradesh, NE hill states, Jharkhand, Chhattisgarh and northern Orissa.

Elsewhere : Indochinese subregion, Malay, Southern China and Sumatra.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *tristis*.

77. *Rhopodytes viridirostris* (Jerdon)

1982. *Rhopodytes viridirostris* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 171.

Common Name : Small Greenbilled Malkoha (E); Popiya (H)

Diagnosis : Length $\pm$ 39 cm; slim with a long tail; greenish ashy-grey in colour; suffused with rufous on the under parts; bright green bill, naked blue patch round the eye and long, broad, graduated tail with conspicuous white tips to the feathers.

Habitat : Deciduous and semi-evergreen forest.

Distribution : India : Peninsular India from Gujarat, southern Maharashtra and Orissa south to Kanyakumari.

Elsewhere : Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P.

78. *Toccocua leschenaulti* Lesson

1982. *Toccocua leschenaulti*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 172.

Common Name : Sirkeer Cuckoo (E); Jangli Tota (H).

Diagnosis : Length 42-44cm; a stout, heavy built, long tailed earthy-brown and rufous cuckoo with fine glistening black shaft-streaks to the head and breast feathers; stout bill, red and yellow in colour; broad white tips to the graduated cross-rayed blackish tail feathers. Sexes alike.

Habitat : Dry deciduous, scrub and bush jungle.

Distribution : Indian mainland.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas N.P.

79. *Centropus sinensis* (Stephens)

1982. *Centropus sinensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 173.

Common Name : Common Crow-Pheasant, Coucal (E); Mahoka (H).

Diagnosis : Length $\pm$ 48 cm; a stout built glossy black bird with chestnut wings and long, broad, graduated black tail; bill, legs and feet black.

Habitat : Deciduous, scrub jungle, and garden.

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, China, Hainan, Indochinese countries, Myanmar, Pakistan, Thailand.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

12. Order STRIGIFORMES**Family STRIGIDAE****80. *Tyto alba* (Scopoli)**

1982. *Tyto alba*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 174.

Common Name : Indian Barn Owl (E); Kuraya (H).

Diagnosis : Length $\pm$ 36 cm; large round head with white facial disc, entirely surrounded by a ruff of stiff feathers; legs long, the upper part of the tarsus covered with feathers; back and wings golden buff and grey, finely stippled with black and white; under parts silky white tinged with buff and usually spotted with dark brown.

Habitat : Neighbourhood of cultivation and human habitation, ruined houses.

Distribution : Throughout Indian mainland.

Elsewhere : Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in the FRH of Kotomsar (Kangerghati N.P.) and Ramgarh (Gurughasidas N.P.).

81. *Otus scops* (Linnaeus)

1982. *Otus scops* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 177.

Common Name : North Indian Scop's owl (E); Ullu (H).

Diagnosis : Length $\pm$ 19 cm; head, back, and wings brown with pale streaks; head with ear tufts; brown wings with white markings; under parts whitish brown with dark blotches; bill green or yellow with blackish at the tip.

Habitat : Deciduous and evergreen forest, orchards, groves or highly foliated trees near cultivation.

Distribution : India : From lower Himalayas of Kashmir east to NE states and south to Madhya Pradesh, Chhattisgarh and Orissa up to $\leq 19^\circ$ N.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

N.B. The bird seen in Kangerghati N.P. may be *rufipennis* but in the field it was not possible to differ from *sunia*.

82. *Bubo coromandus* (Latham)

1982. *Buba coromanda*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 180.

Common Name : Dusky Horned Owl (E); Jangli ghughu (H).

Diagnosis : Length $\pm$ 58 cm; colour greyish brown, sooty washed, finely mottled and vermiculated with white, mostly on under parts, with dark shaft stripes to the feathers; a few whitish or buff spots near shoulder; wing and tail feathers brown with pale cross-bands and tips; at rest the horns stand erect close to each other. Sexes alike.

Habitat : Wooded and well watered country with groves of large leafy tree.

Distribution : India : From south of Himalayas south to Mysore and Nilgiris.

Elsewhere : Bangladesh, Bhutan (?), Nepal.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

83. *Bubo zeylonensis* (Gmelin)

1982. *Bubo zeylonensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 181.

Common Name : Brown Fish Owl (E); Ullu (H).

Diagnosis : Length $\pm$ 56 cm; horned head, back and tail rufous brown, heavily streaked with black; under parts whitish with fine wavy brown crossbars and bold blackish streaks; a large white patch on throat and foreneck; eyes bright golden yellow.

Habitat : Well wooded and well watered country.

Distribution : India : The Himalayas from $\leq$ 1500 m altitude south to entire peninsular India, west from Rajasthan east to NE states.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed in Kangerghati and Guru Ghasidas N.P. It's distributional range may extend beyond east to Bangladesh also. Subspecies *leschenault*.

84. *Glaucidium radiatum* (Tickell)

1982. *Glaucidium radiatum*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 182.

Common Name : Barred Jungle Owlet (E); Jangli Choghad (H).

Diagnosis : Length $\pm$ 20 cm; head, back, wings and tail dark brown, prominently barred with pale rufous; chin, middle of breast and abdomen white; throat and sides of abdomen and vent barred dark olive-brown and white.

Habitat : Moist-deciduous and mixed secondary jungle.

Distribution : India : The Himalayas from c 2000 m altitude south almost throughout the peninsula, west from Rajasthan east to West Bengal.

Elsewhere : Bhutan, Nepal, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *radiatum*.

85. *Ninox scutulata* (Raffles)

1982. *Ninox scutulata*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 183.

Common Name : Indian Brown Hawk Owl (E); Choghad basra (H).

Diagnosis : Length $\pm$ 32 cm; head, back and wings dark greyish brown; wings with irregular white patches near the shoulders; throat and foreneck fulvous streaked with brown; rest of under parts white with markings of reddish brown broken bars; white tipped black barred tail.

Habitat : Well wooded country; in forest, near streams or water courses; sometimes close to human dwelling also.

Distribution : India : Widely distributed in northern and central India except the arid tracts of NW India; southern limit uncertain.

Elsewhere : Bhutan, Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *lugubris*.

86. *Athene brama* (Temminck)

1982. *Athene brama*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 185.

Common Name : Spotted Owlet (E); Ullu (H).

Diagnosis : Length $\pm$ 21 cm; small owlet with white spots on upper parts; pale facial disc and nuchal collar. Sexes alike.

Habitat : Villages, towns, groves of old trees, ruins *etc.*

Distribution : Throughout India.

Elsewhere : Pakistan and Indochinese subregion.

Residential Status : Resident.

Remarks : Observed near the FRHs of all the three National Parks.

13. Order CAPRIMULGIFORMES

Family CAPRIMULGIDAE

87. *Caprimulgus indicus* Latham

1982. *Caprimulgus indicus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 191.

Common Name : Indian Jungle Nightjar (E).

Diagnosis : Length $\pm$ 29 cm; greyish in colour, finely streaked with black on the back; narrowly barred on the tail; tarsus feathered; four outer pairs of tail feathers with sub terminal white spots in male but female without white tips; wings long and pointed; second primary longest; tail long and graduated; very short legs; tarsus feathered; bill soft with enormous gapes.

Habitat : Dry and moist deciduous forest.

Distribution : Throughout Indian mainland, excepting NE India, western Rajasthan and Kutch.

Elsewhere : Japan, Palau Is., Sri Lanka, Siberia, Western China.

Residential Status : Resident subject to marked local movement.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *indicus*.

88. *Caprimulgus macrurus* Horsfield

1982. *Caprimulgus macrurus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 192.

Common Name : Long-tailed Nightjar (E); Chupka (H).

Diagnosis : Length $\pm$ 33 cm; tail long and graduated; a white spot on first four primaries in male; in female the outer tail feathers pale yellowish buff.

Habitat : Moist-deciduous biotope, mixed bamboo and secondary scrub forest.

Distribution : India : From Himalayan foothill south to 18° N Lat., west from Punjab east to NE India.

Elsewhere : Bangladesh, Bhutan, Nepal.

Residential Status : Resident subject to marked local movement.

Remarks : Observed in Kangerghati N.P. Subspecies *albonotatus*

89. *Caprimulgus asiaticus* Latham

1982. *Caprimulgus asiaticus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 193.

Common Name : Indian Little Nightjar (E); Chupka (H).

Diagnosis : Length $\pm$ 24 cm; tarsus almost naked; back with distinct narrow black streak; colour pale-sandy, greyish or brownish.

Distribution : Almost entire Indian Union.

Elsewhere : Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, southern Indo-Chinese countries, southern Thailand.

Residential Status : Mainly resident seasonal visitor to some parts.

Remarks : Observed in Kangerghati N.P. Subspecies *asiaticus*.

14. Order APODIFORMES

Family APODIDAE

90. *Apus melba* (Linnaeus)

1982. *Apus melba*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 198.

Common Name : Alpine Swift (E); Badi ababeel (H).

Diagnosis : Length $\pm$ 22 cm; streamlined body with very long narrow pointed wings; tail slightly forked; colour shooty brown; under parts white and a brown pectoral band on the breast; under tail-coverts brown; under side of wing brown and white.

Habitat : Crag and crevices of rocky country.

Distribution : India : From $\leq$ 2200 m high up Himalayas south to Kanyakumari.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident but moves locally in monsoon but winter visitor in some other parts of the country.

Remarks : Observed near Kotomsar cave and Thirathgarh falls area of Kangerghati N.P. Subspecies *nubifuga*.

91. *Chaetura sylvatica* (Tickell)

1982. *Chaetura sylvatica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 197.

Common Name : White rumped Spine-tail Swift (E).

Diagnosis : Length $\pm$ 11 cm; particularly forest swift; black above with a broad white rump patch; chin, throat and breast greyish brown; lower abdomen and under tail coverts white.

Habitat : Evergreen and moist-deciduous biotope.

Distribution : India : Lower Himalayas from Garhwal east to Assam; south to West Bengal, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh west to Western Ghat strips from Goa, approximately 15° N Lat. southward to western Mysore, western Tamil Nadu and Kerala.

Elsewhere : Bangladesh.

Residential Status : Resident but distribution patchy.

Remarks : Observed in Kangerghati and Sanjay N.P.

92. *Hemiprocne longipennis* (Rafinesque)

1982. *Hemiprocne longipennis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 201.

Common Name : Crested Swift (E); Tajdar ababeel (H)

Diagnosis : Length $\pm$ 23; prominent backward curving frontal crest; colour blue-grey; male having chin, throat and sides of face chestnut; breast ashy-grey; abdomen and under tail coverts white; female lacking chestnut on face and throat.

Habitat : Mostly deciduous forest.

Distribution : India : From the Himalayan foothills (up to 1000 m) south throughout peninsula, almost throughout Indian Union except the desert regions of Punjab, Rajasthan and Gujarat.

Elsewhere : Bangladesh, Myanmar, Nepal, Sri Lanka, central Tenasserim, Thailand and the Indochinese countries.

Residential Status : Resident with local seasonal movement; distribution patchy.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

15. Order TROGONIFORMES

Family TROGONIDAE

93. *Harpactes fasciatus* (Pennant)

1982. *Harpactes fasciatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 202.

Common Name : Trogon (E); Kufni chiri (H).

Diagnosis : Length $\pm$ 31 cm; bill short, strong and wide; nostrils and base of bill well covered with bristles; tail long, broad and curiously square ended; feet small, tarsi feeble and half feathered; wing rather rounded; *Male* : head, neck and breast greyish-black; upper parts bright yellowish brown; belly and under parts crimson pink divided from greyish-black breast by a prominent white gorget; wing blackish with fine wavy white barring. *Female* : upper back darker with an olive tinge, contrasting strongly with bright rufous orange at rump and upper tail coverts.

Habitat : Moist deciduous and semi-evergreen forest.

Distribution : India : Southern Gujarat and northern Maharashtra south to $\approx$ 20° N Lat., eastwards through Chhattisgarh to Jharkhand and Orissa.

Elsewhere : Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *legerli*.

16. Order CORACIFORMES

Family ALCEDINIDAE

94. *Ceryle rudis* (Linnaeus)

1982. *Ceryle rudis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 204.

Common Name : Lesser Pied Kingfisher (E); Kilkila (H); Chitla kilkila (M.P.).

Diagnosis : Length $\pm$ 31 cm; a black and white barred and speckled kingfisher with dagger like black bill; *Male* : crown, forehead and nuchal crest black, finely streaked with white; supercilium and collar on hind neck white; a black streak from eye to ear coverts; under parts white, with a double black gorget across breast. *Female* : only difference with male in having a single gorget broken in the middle.

Habitat : Stagnant water, jheels, reservoirs, ditches and slow flowing streams.

Distribution : Throughout Indian Union except Kerala.

Elsewhere : Afghanistan, Bangladesh, Bhutan, Myanmar, Nepal, Pakistan, Sri Lanka, Vietnam, Tenasserim and Thailand.

Residential Status : Resident.

Remarks : Observed in Kangerghati and Guru Ghasidas N.P. Subspecies *leucomelanura*.

95. *Alcedo atthis* (Linnaeus)

1982. *Alcedo atthis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 205.

Common Name : Small Blue Kingfisher (E); Chhota kilkila (H).

Diagnosis : Length $\pm$ 18 cm; blue kingfisher with white patch on the side of neck; throat white; chest and belly light rusty.

Habitat : Streams, canals, ponds, mangrove swamps and seashore.

Distribution : India : From Himalayan Terai east to Sikkim, Assam, Manipur and south to 20° N Lat. as well as Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Bhutan, Malay Peninsula and adjacent islands, Myanmar, Nepal, Pakistan, Philippines, Thailand and the Indochinese countries.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Sanjay and Guru Ghasidas N.P. Subspecies *bengalensis*.

96. *Pelargopsis capensis* (Linnaeus)

1982. *Pelargopsis capensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 207.

Common Name : Storkbilled Kingfisher (E); Bada kilkila (H).

Diagnosis : Length $\pm$ 38 cm (including bill); upper parts brilliant, pale greenish blue in colour with a yellowish collar on hind neck; head dark greyish brown, chin and throat whitish, rest of under parts ochraceous buff; enormous blood red dagger-shaped bill, diagnostic.

Habitat : Large, placid, heavily shaded forest streams, irrigation channel, coastal backwaters.

Distribution : India : Almost of a line from Dehradun south to Gulf of Cambay.

Elsewhere : Bangladesh, Bhutan, Nepal, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *capensis*.

97. *Halcyon smyrnensis* (Linnaeus)

1982. *Halcyon smyrnensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 208.

Common Name : White breasted Kingfisher (E); Kilkila (H).

Diagnosis : Length $\pm$ 28 cm; brilliant purplish or turquoise-blue to blue-green in colour with chocolate-brown head, neck and under parts; chin, throat and centre of head white; long, pointed, heavy, coral-red bill and leg. Most remarkably the shades of blue may vary with the season.

Habitat : Canals, streams, reservoirs, cultivation, garden and sandy seashore.

Distribution : From the Middle East through the Indochinese subregion to southern China, Hainan Island, Taiwan and the Philippines.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

Family MEROPIDAE

98. *Merops leschenaulti* Vieillot

1982. *Merops leschenaulti*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 210.

Common Name : Chestnut headed Bee-eater (E); Lalsir patringa (H).

Diagnosis : Length $\pm$ 21 cm; slender green bird with curved pointed black bill; crown, hindneck and upper back bright cinnamon-chestnut; chin and throat yellow, bordered by a rufous and black gorget; legs and feet blackish brown.

Habitat : Neighbourhood of streams in mixed deciduous forest area.

Distribution : India : From sub-Himalayas (78° E Long.) east to Assam, Nagaland, Manipur and south to Orissa; also in the Western Ghats from Goa south to Kerala and western Tamil Nadu; less frequent in central, eastern and southeastern parts of peninsula.

Elsewhere : Bangladesh, Bhutan, Indchinese countries, Malay Peninsula, Myanmar, Nepal, Thailand and Yunnan.

Residential Status : Resident but patchy in distribution, emigrates from heavy rainfall areas during the monsoon months.

Remarks : Observed in Kotadol range of Guru Ghasidas N.P.

99. *Merops philipinus* Linnaeus

1982. *Merops philipinus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 211.

Common Name : Bluetailed Bee-eater (E); Bada patringa (H).

Diagnosis : Length $\pm$ 31 cm (from tip of bill to tip of tail pin); back bright green; bill slender, curved and black; a black stripe from back of bill through the eyes to the ear coverts; throat and breast deep chestnut; rump and tail bright cerulean blue.

Habitat : Well-wooded areas with streams, jheels, coastal backwaters *etc.*

Distribution : India : From NW Punjab and northern India through Uttar Pradesh, Bihar, Jharkhand, West Bengal to Assam and patchly throughout peninsula south up to Mysore and Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan and SE Asian countries.

Residential Status : Resident as well as local migrant.

Distribution : Observed in Rihand range of Guru Ghasidas N.P.

100. *Merops orientalis* Latham

1982. *Merops orientalis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 212.

Common Name : Small Green Bee-eater (E); Patringa (H).

Diagnosis : Length $\pm$ 21 cm (from bill tip to tip of tail pin) ; back and under parts grass-green; head and neck tinged with reddish brown; central pairs of tail feathers project beyond tail as blunt pins; bill slender, long and slightly curved; chin, throat verditer blue bordered by a black gorget.

Habitat : Light forest and cultivation.

Distribution : Throughout Indian Union except northeastern region.

Elsewhere : Bangladesh, Bhutan, Nepal.

Residential Status : Resident with marked seasonal movement.

Remarks : Observed near the peripheral region of all the three National Parks.

101. *Nyctyornis athertoni* (Jardine & Selby)

1982. *Nyctyornis athertoni*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 213.

Common Name : Blue-bearded Bee-eater (E).

Diagnosis : Length $\pm$ 36 cm; back wings and tail grass-green; pale greenish blue forehead, upper breast light blue; rest of lower parts rusty buff, broadly streaked with green; bill black, long, slender and slightly curved.

Habitat : Secondary evergreen and moist deciduous forest biotope.

Distribution : India : From lower Himalayas east to NE India south to Gujarat, Maharashtra, western Mysore, western Tamil Nadu and Kerala and from Central India east to Chhattisgarh, Orissa, Bihar, Jharkhand and West Bengal.

Elsewhere : Bangladesh, Bhutan, Myanmar, Nepal.

Residential Status : Resident, but distribution scattered.

Remarks : Observed only in Kangerghati N.P.

Family CORACIIDAE

102. *Coracias benghalensis* (Linnaeus)

1982. *Coracias benghalensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 214.

Common Name : Indian Roller (E); Nilkant (H).

Diagnosis : Length $\pm$ 31 cm; striking blue in colour; head large and heavy; bill brownish black; breast rufous brown; abdomen and vent pale blue; a pale reddish brown collar on hind neck; legs and feet dirty brownish yellow.

Habitat : Deciduous forest, open cultivation, garden *etc.*

Distribution : India : From Himalayan submontane tract south to 20° N Lat.

Elsewhere : Bangladesh, Bhutan, eastern Arabia, Iran, Iraq, Nepal, Pakistan.

Residential Status : Resident with seasonal movement.

Remarks : Observed in the outskirts and periphery of Kangerghati, Guru Ghasidas and Sanjay N.P.

Family UPUPIDAE

103. *Upupa epops* Linnaeus

1982. *Upupa epops*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 216.

Common Name : Hoopoe (E); Hudhud (H).

Diagnosis : Length $\pm$ 31 cm; fawn coloured with prominent black and white zebra markings on back, wings and tail; a prominent fan shaped crest tipped with black and white, when not erected, and seems like a prominent extension of feathers behind the head; long, pointed blackish brown decurved bill.

Habitat : Deciduous biotope, cultivation, light forest, near village and human habitation.

Distribution : Resident or breeding summer visitor in Pakistan, NW India, Himachal Pradesh, Kumaon and Garhwal and wintering to south; breeds also in Europe part of Siberia, NW Africa and Middle East from March to July.

Residential Status : Resident with local seasonal movement.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

Family BUCEROTIDAE

104. *Tockus birostris* (Scopoli)

1982. *Tockus birostris*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 217.

Common Name : Grey Hornbill (E); Dhanesh (H).

Diagnosis : Length $\pm$ 61 cm; plumage brownish grey; bill heavy, curved, blackish and surmounted by a casque; tail long, black, white tipped and graduated.

Habitat : Deciduous forest and groves near cultivation.

Distribution : India : from Himalayan foothills, south to Kerala except in NE region.

Elsewhere : Pakistan.

Residential Status : Resident, and moves locally with the availability of food.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

105. *Anthracoceros coronatus* (Boddaert)

1982. *Anthracoceros coronatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 220.

Common Name : Lesser Pied Hornbill (E); Dhan chiri (H).

Diagnosis : Length $\pm$ 92 (Male), female little smaller; black and white hornbill having black neck, white under parts; huge wax yellow and black bill surmounted by a high ridge-like casque ending in front with a single point; colour of bare parts differs in male and female. *Male* : Iris orange red; orbital skin black or blue-black; bill wax-yellow, black at base of true bill and of casque; also on terminal half or 2/3 of the latter; bare throat patch yellowish-pink; legs and feet greyish. *Female* : Iris brown or blue-brown; orbital skin, cheek-pads and gular skin pinkish creamy white; bill creamy-white; terminal 2/3 of the casque, and patch at base of lower mandible, black; bill with the black less in extent, and absent on the back of the casque.

Habitat : Evergreen and moist-deciduous biotope.

Distribution : India : Andhra Pradesh, Chhattisgarh, Jharkhand, Orissa, Extreme western part of West Bengal, Madhya Pradesh and in the western India from south of Mumbai to western Tamil Nadu and Kerala.

Elsewhere : Sri Lanka.

Residential Status : Resident, and moves locally with the availability of food.

Remarks : Observed in Guru Ghasidas N.P.

106. *Anthracoceros malabaricus* (Gmelin)

1982. *Anthracoceros malabaricus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 219.

Common Name : Indian Pied Hornbill (E); Dhanesh (H).

Diagnosis : Length $\pm$ 89 cm (Male), female little smaller; black and white bird with black neck and white under parts; huge wax yellow and black bill surmounted with a high ridge-like casque; outer tail feather black with white ends. *Male* : on wax yellow bill, a black patch running from the fore part of the casque to the centre for joining between the casque and the upper mandible; extreme bases of casque and bill and commissure black. *Female* : whole fore part of the casque, top and upper part of upper mandible and commissure, black; bold black streaks on lower mandible; amount of black in female is more extensive than male.

Habitat : Open forest in evergreen and moist deciduous biotope.

Distribution : India : west from Punjab east to NE region and southwards to West Bengal, Bihar, Jharkhand, Orissa, eastern Andhra Pradesh, Chhattisgarh.

Elsewhere : Bangladesh, Bhutan, extreme northern Myanmar and Nepal.

Residential Status : Resident but moves locally with fruiting season.

Remarks : Observed in Kangerghati N.P.

17. Order PICIFORMES

Family CAPITONIDAE

107. *Megalaima zeylanica* (Gmelin)

1982. *Megalaima zeylanica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 221.

Common Name : Large Green Barbet (E); Bada Basanta (H)

Diagnosis : Length $\pm$ 27 cm; a stout green bird; head, neck, upper back and upper breast brown, streaked with dirty white, lower breast and abdomen pale green; under surface of tail bluish; a naked orange patch around the eye extends to base of bill; bill orange brown, darker at tip. Sexes alike.

Habitat : Moist and dry deciduous biotope.

Distribution : India : From lower Himalayas of Himachal Pradesh to Kumaon in U.P. and western Terai and south to the line of Godavari river.

Elsewhere : Nepal.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *caniceps*.

108. *Megalaima haemacephala* (P.L.S. Müller)

1982. *Megalaima haemacephala*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 224.

Common Name : Coppersmith (E); Chhota basanth (H).

Diagnosis : Length $\pm$ 17 cm; small, stout, green in colour; throat yellow, breast crimson, forehead crimson, under parts yellowish, streaked with green; short truncated tail; bill dark brown or black; legs and feet coral-red.

Habitat : Wooded country.

Distribution : Throughout India but rather scarce in arid and heavy rainfall area of Western Ghats.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka and SE Asia.

Residential Status : Resident.

Remark : Observed in all the three National Parks.

Family PICIDAE

109. *Jynx torquilla* Linnaeus

1982. *Jynx torquilla*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 225.

Common Name : Wryneck (E); Garden eyengtha (H)

Diagnosis : Length $\pm$ 19 cm; back and wings silvery grey brown, streaked and vermiculated with black and fulvous, under parts whitish with blackish arrow head markings like cross barred pattern; tail with 3 or 4 conspicuous dark bands; bill, legs and feet pale brown in colour.

Habitat : Thorn and scrub jungle and open deciduous forest.

Distribution : India : Wintering from western India through U.P., Rajasthan, Gujarat, Maharashtra, south to Kerala and east to SW West Bengal and Orissa.

Elsewhere : Winter visitor to Nepal and West Pakistan, Mediterranean, northern Africa, Indochinese subregion and breeds in Europe and Western Asia and Japan.

Residential Status : Migratory.

Remarks : Observed in Kotadol range of Guru Ghasidas and Ponri range of Sanjay N.P.

110. *Picumnus innominatus* Burton

1982. *Picumnus innominatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 226.

Common Name : Speckled Piculet (E)

Diagnosis : Length $\pm$ 10 cm; a very small woodpecker with rounded black and white tail, at a glance seems more like flowerpecker than woodpecker; back and mantle bright olive-yellow; black and orange forecrown; a broad blackish olive band behind eye and down side of neck bordered above and below by conspicuous whitish bands; a dark moustachial stripe below the lower band; under parts yellowish-white with bold black spots coalescing into bars on posterior flanks. Female differs with male by having whole crown olive-yellow.

Habitat : Moist-deciduous and semi-evergreen forest approximately up to 2000 m.

Distribution : India : From lower Himalayas of Kashmir east to Arunachal Pradesh and NE hill states; Orissa, lower West Bengal and Western and Eastern Ghat complexes.

Elsewhere : Bangladesh, Bhutan, Borneo, Laos, eastern Myanmar, Malay Peninsula, Nepal, Pakistan, southern Shan States, Sumatra, Thailand, Vietnam.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P.

111. *Micropternus brachyurus* (Vieillot)

1982. *Micropternus brachyurus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 227.

Common Name : Rufous Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 25 cm; colour overall dark chestnut-rufous, narrowly cross-banded with black on upper parts, wings and tail, feathers of throat with longitudinal streaks; male having a crescent shaped crimson patch of feathers under the eye.

Habitat : Sal and secondary mixed forest with bamboo, in moist-deciduous biotope.

Distribution : India : From Sikkim to NE India, West Bengal, Bihar (old), Orissa, eastern Madhya Pradesh, Chhattisgarh and northern Andhra Pradesh.

Elsewhere : Bangladesh, Bhutan, Nepal east to Myanmar and Thailand.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *phaiiceps*.

112. *Picus myrmecophoneus* Stresemann

1982. *Picus myrmecophoneus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 229.

Common Name : Little Scalybellied Green Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 29 cm; colour green, rump yellow; greenish brown tail lightly banded with white; crest and crown crimson; an orange-black patch on nape; a prominent white supercilium from eye backwards, bordered above by a black line; ear coverts pale grey-brown; cheeks greyish white, streaked with black; under parts pale green, boldly scalloped with black; chin and throat fulvous-grey streaked with white. In female, crown and crest black.

Habitat : Semi-evergreen, moist-deciduous and Sal (*Sorea robusta*) forest.

Distribution : India : From Punjab, Haryana, central Rajasthan and Gujarat eastward to Assam and more or less throughout the peninsula.

Elsewhere : Bangladesh, Nepal, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Sanjay N.P.

113. *Picus chlorolophus* Vieillot

1982. *Picus chlorolophus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 230.

Common Name : Small Yellownaped Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 27 cm; a yellowish green woodpecker with golden-yellow nuchal crest; forehead, supercilia and moustachial streak crimson; crown olive-green; wing-quills largely green and maroon-red; tail brownish black with central feathers edged bronze-green; chin and throat brown, barred with whitish; breast olive brown; rest of under parts barred with white and brown.

Habitat : Secondary jungle, mixed bamboo forest, rubber and coffee plantation.

Distribution : India : From Satpuras and hills of peninsular India south to Kerala.

Elsewhere : Indochinese subregion to southern China, Hainan Is., Malayasia, Sri Lanka and Sumatra.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *chorigaster*.

114. *Dinopium benghalense* (Linnaeus)

1982. *Dinopium benghalense*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 231.

Common Name : Lesser Goldenbacked Woodpecker (E); Katphora (H); Khidree (Bastar, Chhattisgarh)

Diagnosis : Length $\pm$ 29 cm; crown and occipital crest crimson, upper parts chiefly golden-yellow with black; under parts white streaked with black; chin, throat and sides of head black, finely streaked and stippled with white. Female differs from male in having black forecrown stippled with white.

Habitat : Dry and moist-deciduous biotope.

Distribution : India From Himalayan foothills south up to Godavari river, west to Gujarat, Rajasthan and east to Assam.

Elsewhere : Bangladesh, Nepal, Paristan and Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *benghalense*.

115. *Dryocopus javensis* (Horsfield)

1982. *Dryocopus javensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 234.

Common Name : Great Black Woodpecker (E); Bhainsa Khidree (Bastar, Chhattisgarh).

Diagnosis : Length $\pm$ 48 cm; black in colour with white rump and belly; forehead, crown, nuchal crest and cheeks red in male; female similar but red confined to nape only.

Habitat : Evergreen and moist-deciduous forest.

Distribution : India : Eastern Madhya Pradesh and possibly Eastern Ghats; The entire Western Ghats complex south to Kerala.

Elsewhere : China, Indochinese subregion, Korea, Myanmar, Malay peninsula Is., and Philippines.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *hodgsonii*.

116. *Picoides macei* (Vieillot)

1982. *Picoides macei*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 238.

Common Name : Fulvous-breasted Pied Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 19 cm; black back, barred or streaked with white; crown and crest crimson in male and black in female; under parts pale rufous-brown and breast faintly streaked with black; under tail coverts light crimson; middle tail feathers all black.

Habitat : Open forest and wooded country.

Distribution : India : Himalayan foothills and terai east to NE India and eastern India through Bihar, West Bengal, Jharkhand to Andhra Pradesh up to 18° N Lat.

Elsewhere : Bangladesh, Bhutan, Nepal.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *macei*.

117. *Picoides mahrattensis* (Latham)

1982. *Picoides mahrattensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 239.

Common Name : Yellow-fronted Pied Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 18 cm; forehead and crown brownish-yellow; small occipital crest scarlet; upper parts brownish black, irregularly spotted with white; chin, throat, and foreneck white; under parts mostly fulvous streaked with brown; a bright scarlet patch on abdomen. Sexes alike.

Habitat : Semi-desert to moist deciduous biotope.

Distribution : India : From Punjab east through the base of the Himalayas to Assam (rather rare) and south almost throughout the peninsula.

Elsewhere : Bangladesh, Nepal, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

118a. *Picoides nanus* (Vigors)

1982. *Picoides nanus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 240.

Common Name : Pygmy Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 13 cm; upper parts barred with dark brown and white; crown umber brown with a narrow scarlet streak on either side of occiput; a broad white stripe starting from above the eye runs down to sides of neck; under parts brownish-white, streaked with black; female lacking scarlet streak.

Habitat : Light-deciduous and bamboo forest as well as secondary jungle.

Distribution : India : Peninsular India, northward upto Gujarat, Madhya Pradesh, Chhattisgarh and Orissa.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *hardwickii*.

118a. The Subspecies *nanus* is almost same as 118 but paler in shade; crown yellowish brown, streaks on under parts pale and diffused. The distributional range in India is from Punjab and Rajasthan eastwards to West Bengal and Orissa, north upto Himalayan foothills and south to Madhya Pradesh and Chhattisgarh.

Elsewhere : Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed in the Rihand Range of Guru Ghasidas and Kushmi Range of Sanjay N.P.

119. *Hemicircus canente* (Lesson)

1982. *Picus canente*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 241.

Common Name : Heart spotted Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 16 cm; a buff and black woodpecker with slender neck, large crested head, striking short and broad rounded tail; *Male* : Forehead and crown black, very finely speckled with white; crest black; black back with buff wing coverts and tertiaries marked with heart shaped black spots; rump buffy white; chin, throat, foreneck and sides of neck buffy white; rest of under parts dusky olive and black. *Female* : Almost similar, except buffy white forehead and crown.

Habitat : Moist deciduous and secondary evergreen forest.

Distribution : India : Western Ghats complex north from Tapi river south to Kerala and east to Madhya Pradesh, Orissa, West Bengal, Assam and Manipur.

Elsewhere : Bangladesh.

Residential Status : Resident and sparsely distributed.

Remarks : Observed in Kangerghati N.P.

120. *Chrysocolaptes festivus* (Boddaert)

1982. *Chrysocolaptes festivus* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 242.

Common Name : Black-backed Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 29cm; *Male* : Crest and crown crimson; sides of hindneck white running down to join a 'V' on the upper back; lower back and tail black; wings golden olive; cheeks, chin, throat and foreneck fulvous-white with five narrow longitudinal black streaks; rest of under parts buffy white and the black edged feathers form bold scaly pattern on breast. *Female* : Almost similar but crown and crest golden yellow.

Habitat : Deciduous forest.

Distribution : India : from southern Uttarakhand, central Rajasthan and eastern Gujarat east to Southeastern Bihar and south to Kerala.

Elsewhere : Sri Lanka.

Residential Status : Resident, widely but sparsely distributed.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

121. *Crysocolaptes lucidus* (Scopoli)

1982. *Crysocolaptes lucidus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 242.

Common Name : Larger Goldenbacked Woodpecker (E); Katphora (H).

Diagnosis : Length $\pm$ 33cm; **Male**: Crown and crest crimson; nape and hindneck white; back and mantle golden olive; rump crimson; upper tail coverts and tail black; under parts buffy white; scale pattern looks more like white spots on a black sheet; cheeks and chin white; two black stripes on either cheeks meeting on sides of throat and continuous; a fifth broader black stripe down centre of chin and foreneck. **Female**: Similar but crest and crown black stippled with white.

Habitat : Evergreen, semievergreen and moist-deciduous forest.

Distribution : India : From Garhwal Himalayas east to NE hill states, south through West Bengal, Orissa, Bihar, Jharkhand, eastern Uttar Pradesh, northern Andhra Pradesh and SE Madhya Pradesh.

Elsewhere : China, Bangladesh, East to Indochina, Malaysian subregion, and Philipines.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *guttacristatus*.

18. Order PASSERIFORMES

Family PITTIDAE

122. *Pitta brachyura* (Linnaeus)

1982. *Pitta brachyuran*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 244.

Common Name : Indian Pitta (E); Naorang (H).

Diagnosis : Length $\pm$ 19 cm; back green, wings with bright blue patch, tail bright blue with a white band running from base of bill over the eyes towards nape and hindneck;

black on crown and below the eye; abdomen, vent and under tail coverts white and fulvous with crimson pink; bill brown with orange tinge; legs and feet pinkish.

Habitat : Scrub jungle, semi-cultivation, patches of light-deciduous and evergreen forest.

Distribution : Throughout the Indian Mainland except arid region of Rajasthan and high Himalayas.

Elsewhere : Bangladesh, one stray record in Pakistan, Sri Lanka.

Residential Status : Resident with far ranging dispersal or migratory movement.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

Family ALAUDIDAE

123. *Mirafra javanica* Horsfield

1982. *Mirafra javanica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 246.

Common Name : Singing Bush Lark (E); Agin (H).

Diagnosis : Length $\pm$ 15 cm; a female sparrow like bird with rufous or chestnut on the wings; outer tail feathers white; under parts fulvous; breast marked with brown triangular spots. Sexes alike.

Habitat : Bushy undulating plains and foothill country, grassland, fallow cultivation and sparse scrubby semidesert.

Distribution : India : Most of the Indian Union except NE region.

Elsewhere : Pakistan, Sri Lanka.

Residential Status : Resident but extremely local.

Remarks : Observed in Sanjay N.P. near periphery or in dry bush jungle.

124. *Calandrella raytal* (Blyth)

1982. *Calandrella raytal*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 251.

Common Name : Sand Lark (E); Retal (H).

Diagnosis : Length $\pm$ 13 cm; colour sandy-grey, narrowly streaked with dark brown; under parts white, indistinctly streaked with dark sandy grey at the sides of breast; a white supercilium and cheeks; black and white short tail. Sexes alike.

Habitat : Sandy river banks and islets in streams.

Distribution : India : Northern India east of Jamuna river, Delhi, Haryana, south and east through U.P. from terai south through Bihar, Jharkhand, northern West Bengal, Brahmaputra valley in Assam to Chhattisgarh and Madhya Pradesh.

Elsewhere : Bhutan, Myanmar and Nepal.

Residential Status : Resident.

Remarks : Observed on the banks of Bijadhur river in Guru Ghasidas N.P. and Neur river of Sanjay N.P. Subspecies *raytal*.

Family HIRUNDINIDAE

125. *Riparia riparia* (Linnaeus)

1982. *Riparia riparia*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 256.

Common Name : Collared Sand Martin (E), Ababil (H).

Diagnosis : Length $\pm$ 13 cm; back smoky grey brown, darker on wing and tail quills; chin, throat, breast and belly white; a broad smoke-grey band across the breast; bill black; legs and feet dark brown. Sexes alike.

Habitat : Near streams and rivers.

Distribution : India : From northern India south up to Madhya Pradesh.

Elsewhere : Afghanistan, Bhutan, eastern Iran, Myanmar, northeastern China, Pakistan, Russian Turkestan.

Residential Status : Migratory, widely distributed but sporadic.

Remarks : Seen in Sanjay N.P. Subspecies *diluta*.

126. *Riparia paludicola* (Vieillot)

1982. *Riparia paludicola*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 257.

Common Name : Plain Sand Martin (E); Ababil (H).

Diagnosis : Length $\pm$ 12 cm; back greyish brown; crown darker, rump paler, chin, throat and breast smoky grey; belly and vent white; tail dark brown; tarsus bare. Sexes alike.

Habitat : River valleys.

Distribution : India : Northern India mostly up to Maharashtra.

Elsewhere : Eastern Afghanistan, Formosa, Indochinese subregion, Myanmar, northern Luzon, northern Thailand, Russian Turkestan and southern Yunnan.

Residential Status : Resident but moves locally.

Remarks : Seen in Sanjay N.P. near Neur River.

Family LANIIDAE

127. *Lanius excubitor* Linnaeus

1982. *Lanius excubitor*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 262.

Common Name : Grey Shrike (E); Bada latora (H).

Diagnosis : Length $\pm$ 25cm; colour silvery-grey; black and white long graduated tail; wings black with pure white patch; a conspicuous broad black band from forehead and bill backward across eye to ear-coverts; head rather large with heavy hooked bill. Sexes alike.

Habitat : Mostly dry-deciduous biotope.

Distribution : India : Andhra Pradesh, Chhattisgarh, Deccan plateau, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, southern West Bengal and also recorded from Tamil Nadu.

Elsewhere : Bangladesh, Pakistan.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Resident. Subspecies *lahtora*.

128. *Lanius vittatus* Valenciennes

1982. *Lanius vittatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 263.

Common Name : Baybacked Shrike (E); Pachanak (H).

Diagnosis : Length $\pm$ 18cm; head and neck white and grey; a broad black band across the forehead encircling eye and reaching back to end of ear-coverts; back chestnut; rump dirty white; under parts white, fulvous on breast, rusty on flanks.

Habitat : Mostly dry-deciduous biotope and open scrub thorn jungle.

Distribution : Throughout the Indian Union except NE region.

Elsewhere : Nepal, Pakistan.

Residential Status : Resident with marked seasonal movement.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

129. *Lanius schach* Linnaeus

1982. *Lanius schach*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 265.

Common Name : Rufous backed Shrike (E); Kajala (H).

Diagnosis : Length $\pm$ 25cm; head large; laterally compressed, hook tipped black bill; a broad band from forehead through eye black; from crown to upper back grey; rest of under parts rufous or cinnamon; graduated tail black and rufous; chin, throat and upper breast white; rest of under parts pale rufous; wings blackish with a white wing spot.

Habitat : Open wooded country and cultivation.

Distribution : India : From NW India east to Kumaon, south to Maharashtra and east through Chhattisgarh, Andhra Pradesh up to West Bengal.

Elsewhere : From Transcaspia, Kirghiz, Tadzhik, Tien Shan south to Afghanistan, Pakistan east to Myanmar, Yunnan, Indochinese and Malaysia.

Residential Status : Migratory, arrives early April and leaves by September but breeds in northern India up to U.P.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *erythronotus*.

130. *Lanius cristatus* Linnaeus

1982. *Lanius cristatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 266.

Common Name : Brown Shrike (E); Kerkheta (H).

Diagnosis : Length $\pm$ 19cm; upper parts reddish brown; forehead and supercilium white; black line from bill through eye to ear coverts; tail rufous brown; wings blackish brown with rufous edge; chin, cheeks and throat white; rest of under parts fulvous.

Habitat : Dry-deciduous and semi-evergreen biotope.

Distribution : Throughout India except NW region.

Elsewhere : Breeds in Siberia from Tomsk to the Kolyma R. and Kamchatka south to N. Mongolia and N. Amurland; wintering to Bangladesh, Indochinese countries, Malay Peninsula, Myanmar, Thailand, Sri Lanka.

Residential Status : Migratory.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

Family ORIOLIDAE

131. *Oriolus oriolus* (Linnaeus)

1982. *Oriolus oriolus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 267.

Common Name : Golden Oriole (E); Peelak (H).

Diagnosis : Length $\pm$ 25 cm; Male : a golden yellow bird with black wing and tail; conspicuous black streak from lores behind the eye. *Female* : Usually greenish yellow in colour with paler under parts streaked with dull brown. Old female may be similar to male in look.

Habitat : Deciduous and semi-evergreen biotope, groves, orchards, cultivation, gardens etc.

Distribution : India : Summer visitor to northern most part of India, migrates to peninsula in winter.

Elsewhere : Afghanistan, Bangladesh, Bhutan, Nepal, Sri Lanka, Pakistan, Pamir, Tien Shan, Turkestan.

Residential Status : It is difficult to define correctly, according to locality it varies with resident, seasonal visitor, local or extralimital migrants.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

132. *Oriolus xanthornus* (Linnaeus)

1982. *Oriolus xanthornus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 268.

Common Name : Black headed Oriole (E); Peelak (H).

Diagnosis : Length $\pm$ 25 cm; a golden yellow bird with full black head, throat and upper breast as well as some black on wings and tail; bill reddish. Sexes alike but female is little paler.

Habitat : Light forest, moist-deciduous biotope, plantation, groves, gardens etc.

Distribution : Throughout Indian Union.

Elsewhere : Bangladesh, Myanmar south to Tenasserim, Shan States, Thailand.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *xanthornus*.

Family DICRURIDAE

133. *Dicrurus adsimilis* (Bechstein)

1982. *Dicrurus adsimilis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 270.

Common Name : Black Drongo (E); Bujanga (H).

Diagnosis : Length $\pm$ 31 cm, wing 130-145 mm, tail 135-165 mm; glossy jet black bird with long deeply forked tail; no tuft on forehead; outermost rectrices exceeding central ones by about length of tarsus and only faintly curved. Sexes alike.

Habitat : Open deciduous forest and cultivation.

Distribution : India : Throughout peninsular India, south of a line roughly from Kutch, east to Chhattisgarh, Orissa and southwestern West Bengal.

Elsewhere : Afghanistan, Africa, Bangladesh, Bali, Hainan, Indochines subregion, Java, Southern China and Taiwan.

Residential Status : Resident but moves locally and seasonally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *macrocerus*.

134. *Dicrurus caerulescens* (Linnaeus)

1982. *Dicrurus caerulescens*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 272.

Common Name : White bellied Drongo (E); Dhapri (H).

Diagnosis : Length $\pm$ 24 cm; a slim drongo with deeply forked tail; colour glossy indigo above and brownish grey below; belly and under tail-coverts white. Sexes alike.

Habitat : Dry, moist-deciduous and bamboo forest.

Distribution : All India, south and east of a line roughly from Kutch to Ambala and Simla, thence eastward through Uttar Pradesh, Bihar and West Bengal.

Elsewhere : Nepal and Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *caerulescens*.

135. *Dicrurus aeneus* Vieillot

1982. *Dicrurus aeneus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 272.

Common Name : Bronzed Drongo (E); Chhota Kesraj (H).

Diagnosis : Length $\pm$ 24 cm; colour black with glossy bronze green and blue; tail not so deeply forked; bill broad and flattened.

Habitat : Moist-deciduous and evergreen forest biotope.

Distribution : India : From Uttaranchal east to NE India and south through West Bengal along the Eastern Ghats across the Shevaroy hills south to Kerala and also in the Western Ghats and associate hills of Tapi river.

Elsewhere : Bangladesh, Bhutan, Nepal, Indochinese countries, Myanmar, Malay Peninsula, Thailand, Yunnan and south to 4° N.

Residential Status : Resident with local winter movement.

Remarks : Observed in Kangerghati N.P.

136. *Dicrurus hottentottus* (Linnaeus)

1982. *Dicrurus hottentottus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 273.

Common Name : Haircrested Drongo (E); Kesraj (H).

Diagnosis : Length $\pm$ 31cm; colour glossy blue-black; rather long square cut tail, curled up at the outer ends; a few hair like feathers extending from forehead over the crown; bill long, pointed and downwardly curved.

Habitat : Moist-deciduous and evergreen biotope.

Distribution : India : From Himalayan foothills east to northeastern India south through eastern Bihar, Jharkhand, West Bengal along the Eastern Ghats complex in Orissa, Chhattisgarh, Andhra Pradesh and Tamil Nadu and northward along the Sahyadri or Western Ghats strip to Mumbai and may be a straggler to Kutch.

Elsewhere : Bangladesh, Bhutan, Nepal, Indochinese countries, Myanmar and Thailand.

Residential Status : Resident but moves seasonally particularly with the availability of food (flower nectar).

Remarks : Observed in Kangerghati and Guru Ghasidas N.P.

137. *Dicrurus paradiseus* (Linnaeus)

1982. *Dicrurus paradiseus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 274.

Common Name : Greater Racket-tailed Drongo (E); Bhimraj (H).

Diagnosis : Length $\pm$ 21 cm with a tail up to 580 mm; colour metallic black; a conspicuous backwardly curved crest on forehead covering the whole crown; two long wire like spatula tipped streamers in tail.

Habitat : Deciduous and evergreen biotope.

Distribution : India : From lower Himalayas east to NE India south to Madhya Pradesh, Chhatisgarh, Orissa and northern part of Maharashtra and Andhra Pradesh.

Elsewhere : Bangladesh, Bhutan, Nepal, Myanmar, Vietnam and Yunnan.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *grandis*.

Family STURNIDAE

138. *Sturnus malabaricus* (Gmelin)

1982. *Sturnus malabaricus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 277.

Common Name : Greyheaded Myna (E); Pawei (H).

Diagnosis : Length $\pm$ 21 cm; head and upper parts silvery grey; tail rufous; wing quills black and grey; chin, throat and breast lilac-grey or pale rufous and rest of under parts bright-rufous. Sexes alike.

Habitat : Thinly wooded jungle, forest plantation and usually near human habitation.

Distribution : India : Almost throughout India except high Himalayas, desert and SW India.

Elsewhere : Bangladesh, Bhutan, Nepal.

Residential Status : Resident with seasonal local migratory movement.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. but always either at the peripheral region of the park or near the forest rest house or staff quarters. Subspecies *malabaricus*.

139. *Sturnus pagodarum* (Gmelin)

1982. *Sturnus pagodarum*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 278.

Common Name : Blackheaded or Brahminy Myna (E); Kalasir Myna (H).

Diagnosis : Length $\pm$ 22 cm; above grey with glossy black forehead, crown and nape; a conspicuous long pointed crest; wings black; tail brownish with white edge and tip; under parts reddish fawn; crest in female shorter.

Habitat : Open deciduous forest, scrub jungle and neighbourhood of human habitation.

Distribution : India : All India except high Himalayas and extreme desert; rare in Assam; once recorded at 4750m high at Ladakh.

Elsewhere : Pakistan, Sri Lanka, rare in Bangladesh; once recorded in Thailand.

Residential Status : Resident with local seasonal movement.

Remarks : Usually found in Kangerghati, Guru Ghasidas and Sanjay N.P. near the peripheral region of the park or near the forest rest house, staff quarters and cultivations; it was also observed in the 'Domerpat' situated deep inside of Sanjay N.P.

140. *Acridotheres tristis* (Linnaeus)

1982. *Acridotheres tristis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 281.

Common Name : Common Myna (E); Desi Myna (H); Gulgul (M.P., Chhattisgarh).

Diagnosis : Length $\pm$ 23 cm; colour dark brown; head glossy black; legs, bill and naked patch below and behind eye bright yellow; a large white patch on wing conspicuous in flight. Sexes alike.

Habitat : Neighbourhood of human habitation; outskirts of desert or forest.

Distribution : Almost throughout Indian Union.

Elsewhere : Afghanistan, Bangladesh, Bhutan, Indochinese countries, Myanmar, Nepal, Pakistan, Russian Turkestan, SE Persian Baluchistan, Thailand.

It was introduced in Andaman Islands (India), Australia, Hawaii, New Zealand, South Africa and Islands of Indian Ocean, Atlantic and Pacific.

Residential Status : Resident.

Remarks : Observed near the peripheral region of the three parks or near the forest rest house, staff quarters and cultivations.

141. *Acridotheres fuscus* (Wagler)

1982. *Acridotheres fuscus* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 282.

Common Name : Jungle Myna (E); Jungli Myna (H).

Diagnosis : Length $\pm$ 23 cm; colour greyish-brown above and light smoky-brown below; a prominent tuft of erect black feathers at base of bill on forehead; white tipped tail; iris yellow. Sexes alike.

Habitat : Well wooded country, usually near cultivation, forest village, plantation *etc.*

Distribution : India : Patchly distributed throughout the lower Himalayas, south up to a line of Mt. Abu in west and Mahanadi at east.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan.

Residential Status : Resident with local seasonal movement.

Remarks : Lives near the peripheral region of Sanjay and Guru Ghasidas N.P. where establishment of forest rest house and forest village occurs. Subspecies *fuscus*.

142. *Gracula religiosa* Linnaeus

1982. *Gracula religiosa*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 284.

Common Name : Grackle or Hill Myna (E); Pahari Myna (H).

Diagnosis : Length $\pm$ 29 cm; a stout built jet-black myna with bright yellow-orange patches of naked skin and fleshy wattles on sides of head and nape; a broad white band on primaries.

Habitat : Tropical moist-deciduous and semi-evergreen forest.

Distribution : India : The submontane tract of the Himalayas from 80° E, east through Sikkim up to Assam, Manipur and Nagaland and south to Chhattisgarh and Orissa, and northern Andhra Pradesh.

Elsewhere : Bangladesh, Indochinese countries, Myanmar, south to Tenasserim, Thailand.

Residential Status : Resident; moves locally with the availability of food; slight but marked seasonal local movement.

Remarks : It is the State Bird of Chhattisgarh but observed only in the Kangerghati N.P. Subspecies *intermedia*.

Family CORVIDAE

143. *Dendrocitta vagabunda* (Latham)

1982. *Dendrocitta vagabunda*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 288.

Common Name : Indian Tree Pie (E); Mahalat (H).

Diagnosis : Length $\pm$ 30 cm; a slim, long tailed, bright rufous bird with dark sooty grey head, neck and breast; graduated greyish tail with broad black tips; wing designed with grey, white and black in typical. Sexes alike.

Habitat : Lightly wooded, dry and moist-deciduous biotope.

Distribution : India : From submontane tract of Himalayas of Uttar Pradesh, Bihar east to NE India, Chhattisgarh, Madhya Pradesh, Maharashtra east, Orissa, northern Andhra Pradesh, south up to 17-18° N Lat.

Elsewhere : Indochinese subregion, Myanmar, Nepal, Pakistan.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *vagabunda*.

144. *Corvus macrorhynchos* Wagler

1982. *Corvus macrorhynchos*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 294.

Common Name : Jungle Crow (E); Jangli kowwa (H).

Diagnosis : Length $\pm$ 48 cm; a stout built glossy jet black bird with heavy black bill. Sexes alike.

Habitat : Well wooded country, forest and outskirts of forest, village, towns and cities.

Distribution : India : From a line of Delhi west to Mt. Abu and Kutch and east to West Bengal and from the Nepal Terai south to Kanyakumari.

Elsewhere : Sri Lanka.

Residential Status : Resident.

Remarks : Observed in and near the Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *culminatus*.

Family MUSCICAPIDAE

145. *Saxicola caprata* (Linnaeus)

1982. *Saxicola caprata*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 466- 467.

Common Name : Pied Bush Chat (E); Pidda (H).

Diagnosis : Length $\pm$ 13 cm; *Male* : Black with white wing patch and white upper tail coverts; under parts black with white belly and under tail coverts; in winter, black feathers are fringed with brown. *Female* : colour brownish with buff lores and wing edges; upper tail coverts rusty; tail rather blackish; under parts fulvous with rusty tinge; under tail coverts buff.

Habitat : Cultivated field, scrubbed hill side; tamarisk; neighbourhood of water bodies with aquatic vegetation.

Distribution : India : From Gujarat south to Karnataka and Tamil Nadu east through Chhattisgarh, Jharkhand, West Bengal north to Assam, Nagaland, Manipur Mizoram and Meghalaya.

Elsewhere : Bangladesh.

Residential Status : Resident with local movement.

Remarks : Observed near Nageleswar naka of Kangerghati N.P. Subspecies *burmanica*.

146. *Monticola cinclorhynchus* (Vigors)

1982. *Monticola cinclorhynchus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 473.

Common Name : Blue headed Rock Thrush (E)

Diagnosis : Length $\pm$ 17 cm; *Male*: In winter: crown, nape and shoulder blue; black feathers of back edged with fulvous; white patch on wings; black broad band from lores to ear coverts. *Female*: Above olive-brown in colour and below squamated whitish and dark brown.

Habitat : Winters in moist-deciduous and evergreen forest, coffee and cardamom plantation; rocky hill side.

Distribution : India : Summer visitor in Himalayas; winters chiefly in western Ghats but recorded also from Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh.

Elsewhere : Afghanistan, Bhutan, Myanmar, Nepal, Pakistan.

Residential Status : Migratory but in summer also breeds in our limits.

Remarks : Once seen in Kangerghati N.P. in December 2004.

147. *Monticola solitarius* (Linnaeus)

1982. *Monticola solitarius*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 474.

Common Name : Indian Blue Rock Thrush (E).

Diagnosis : Length $\pm$ 23 cm; *Male* : Almost blue in colour; in winter, little fulvous above, brown on breast and white on belly. *Female* : Brownish in colour, barred with blackish on rump; under parts white, cross barred with brown.

Habitat : Rocky country, old or ruined constructions.

Distribution : India : Visits in summer for breeding, from western Himalayas east maximum up to West Bengal; wintering almost throughout India; rare in Gangetic and coastal plains.

Elsewhere : From Mediterranean east to Japan to S.E. Asia and Sri Lanka.

Residential Status : Migratory.

Remarks : Seen only in Sanjay N.P. in January 2003. Subspecies *pandoo*.

148. *Zoothera citrina* (Latham)

1982. *Zoothera citrine*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 477.

Common Name : Orange headed Ground Thrush (E).

Diagnosis : Length $\pm$ 21 cm; *Male* : A bluish-grey bird with chestnut-orange head, nape and under parts; white on vent, under tail coverts, throat and ear coverts with two oblique dark brown stripes; wings have white shoulder bar and whitish edge. *Female* : Only difference with male in having white tipped mantle.

Habitat : Damp forest including bamboo thickets, streams and ravines.

Distribution : India : Peninsular India, tentatively south of 22° N Lat.

Elsewhere : Bangladesh, Indochinese and Malaysian subregions, Nepal, Pakistan, south China.

Residential Status : Resident with local seasonal movement.

Remarks : Observed in Kangerghati N.P.

149. *Turdus unicolor* Tickell

1982. *Turdus unicolor*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 481.

Common Name : Tickell's Thrush (E); Desi Pawai (H).

Diagnosis : Length $\pm$ 21 cm; *Male* : colour ashy-grey, paler on breast and white on belly. *Female* : Olive-brown in colour with white throat, belly and under tail coverts; a broad pale olive-brown band across the breast with few dark brown streaks; flanks tawny-olive.

Habitat : Deciduous forest, forest edges as well as well wooded area.

Distribution : India : Breeds from western Himalayas, east maximum to Sikkim in summer and in winter moves east and south-east of its main breeding grounds of Kangra along the foothills to Arunachal Pradesh, and south to eastern M.P., Chhattisgarh, Orissa, NE Andhra, southern West Bengal:

Elsewhere : Bangladesh, Pakistan.

Residential Status : Summer visitor to the Himalayas and winters to NE region and eastern part of peninsula.

Remarks : Seen only in Kangerghati N.P. in January 2003.

150. *Macronous gularis* (Horsfield)

1982. *Macronous gularis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 337.

Common Name : Yellowbreasted Babbler (E).

Diagnosis : Length $\pm$ 11 cm; upper parts olive-grey with tawny-olive cap and wings; lores and supercilium pale-yellow with darker streaks; under parts pale yellow and sides of body olive-buff. Sexes alike.

Habitat : Light and dense forest, bamboo and long grass jungle; in undergrowth and bushes.

Distribution : India : From Sikkim, through West Bengal, east to Assam, Nagaland, Manipur, and south to Jharkhand, Orissa, Chhattisgarh, northeastern Andhra Pradesh and southern Mysore.

Elsewhere : Bangladesh, Bhutan, Nepal.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P.

151. *Chrysomma sinense* (Gmelin)

1982. *Chrysomma sinense*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 338.

Common Name : Yellow-eyed Babbler (E); Gulab-chashm (H).

Diagnosis : Length $\pm$ 18 cm; back rufescent brown; cinnamon coloured wings; lores and a short supercilium white; yellow eyes with orange-yellow eye-rim; bill black; long graduated tail; under parts white washed with little buff on lower belly. Sexes alike.

Habitat : Tall grass and bamboo thickets, scrub and bush jungle.

Distribution : India : Andhra Pradesh, Assam, Bihar, Chhattisgarh, Jharkhand, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Bhutan, China, Myanmar, Malay Archipelago, Nepal, Thailand and Vietnam.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

152. *Turdoides striatus* (Dumont)

1982. *Turdoides striatus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 346.

Common Name : Jungle Babbler (E); Satbhai (H).

Diagnosis : Length $\pm$ 25 cm; upper parts dark grey-brown; creamy white eye, yellowish bill and legs; rump and tail coverts buff; tail rufous brown; chin and throat grey, streaked with darker bar; belly, vent and under tail coverts fulvous. Sexes alike.

Habitat : Deciduous and bamboo forest as well as cultivation.

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, Nepal, southern Pakistan.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

153. *Muscicapa parva* Bechstein

1982. *Muscicapa parva*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 385.

Common Name : Eastern Red-breasted Flycatcher (E); Turra (H).

Diagnosis : Length $\pm$ 13 cm; *Male* : pale brown above; throat rufous; breast grey; tail black with white patches on either side of basal half. *Female* : olive-brown above with white throat and dirty-white belly.

Habitat : Mostly forest plantation, groves, orchards, scrub jungle *etc.* but also visits open forest area or clear felling area of the deciduous forest.

Distribution : Winters from NE India, south up to Tamil Nadu. In our limits, it breeds in Ladakh.

Elsewhere : Wintering to Bangladesh, Bhutan, Myanmar, Nepal, Thailand and the Indochinese countries and breeds from Ural to Kamchatka.

Residential Status : Migratory.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *albicilla*.

154. *Muscicapa rubeculoides* (Vigors)

1982. *Muscicapa rubeculoides*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 393.

Common Name : Blue throated Flycatcher (E).

Diagnosis : Length $\pm$ 14 cm; *Male* : Sides of head, back, throat, wings and tail dull ultramarine blue; forehead and supercilium brighter; breast rufous, belly and under tail coverts buffish white; lores white. *Female* : Head, back, wing and tail olive-brown, tinged with rufous on rump; chin and throat buff; breast ochraceous; belly and vent white.

Habitat : Forest with plenty of undergrowth, secondary forest, wooded nullahs and well wooded gardens, bamboo forest.

Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Hupei, Nepal, Sri Lanka, Szechuan and Vietnam.

Residential Status : Partial migrant, common in its breeding place in high Himalayas and disperse in winter towards south in its wintering range.

Remarks : Observed in Kangerghati N.P. in December 2005.

155. *Muscicapa tickelliae* (Blyth)

1982. *Muscicapa tickelliae*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 394.

Common Name : Tickell's Redbreasted Blue Flycatcher (E).

Diagnosis : Length $\pm$ 14 cm; *Male*: Head, back and tail indigo-blue; forehead, supercilium and shoulder azureblue; chin, throat, and breast orange-rufous and belly white; face black. *Female*: Head, back, tail and wing bluish grey; breast pale rufous.

Habitat : Thick bushes in or near forest and stream, deciduous scrub and bamboo jungle, overgrown nullahs, village groves, wooded gardens and orchards.

Distribution : India : Throughout excepting Arunachal Pradesh, Himachal Pradesh, Jammu and Kashmir, Sikkim and Tripura.

Elsewhere : Bangladesh, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Thailand and the Indochinese countries.

Residential Status : Resident with local movement.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

156. *Muscicapa thalassina* Swainson

1982. *Muscicapa thalassina*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 394.

Common Name : Verditor Flycatcher (E).

Diagnosis : Length $\pm$ 15 cm; *Male* : Entire plumage blue-green; head and throat brighter; wings and tail darker; lores black. *Female* : Duller and greyer in colouration.

Habitat : Light forest and bushes along streams, also evergreen and coniferous but avoids dense and tall forest.

Distribution : Throughout India.

Elsewhere : Bangladesh, China, Indochinese countries, Myanmar, Pakistan, Vietnam.

Residential Status : Breeds in summer in the Himalayas and wintering south throughout the peninsula.

Remarks : Observed in Kangerghati N.P.

157. *Rhipidura albicollis* (Vieillot)

1982. *Rhipidura albicollis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 398.

Common Name : White throated Fantail Flycatcher (E); Machhanya (H).

Diagnosis : Length $\pm$ 17cm; crown, sides of head, back, wing and under parts dark slaty brown; white band across the throat; supercilium white; outer rectrices tipped with white.

Habitat : Shady places in forest, well wooded country, gardens, groves and secondary scrub jungle.

Distribution : Almost throughout India except drier western parts and Gangetic plain area of U.P.

Elsewhere : Bangladesh, Borneo, Indochinese countries, Malayan subregion, Myanmar, Nepal, Pakistan, the Sumatra and Vietnam.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

158. *Terpsiphone paradisi* (Linnaeus)

1982. *Terpsiphone paradise*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 399.

Common Name : Indian Paradise Flycatcher (E); Sultan Bulbul (H).

Diagnosis : Length $\pm$ 20 cm and with streamer of $\pm$ 50 cm; *Male* : with long streamer; in old male (4 yrs.) entire head and throat black with a conspicuous crest of metallic blue-black colour; bill and a narrow eye rim blue; wings black and white; rest of plumage silvery white, tail feathers with black outer webs and black shaft-streaks. Young males (up to 3 yrs.) are same as adult but back, tail and streamers rufous. In female and first winter male, crown bluish black with a shorter crest than adult male; rest of upper parts rufous; throat, sides of head and nuchal collar ashy; belly white; devoid of streamers.

Habitat : Well watered and shady forest, bamboo jungle, groves etc.

Distribution : India : From south of the Gangetic plains throughout the peninsular India, unevenly or discontinuously distributed.

Elsewhere : Afghanistan, Africa, Bangladesh, China south, Indochinese countries, Korea, Malay Peninsula, Manchuria and Pakistan.

Residential Status : Resident but having winter migration which is little studied so far.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

159. *Prinia hodgsonii* Blyth

1982. *Prinia hodgsonii*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 411.

Common Name : Franklin's Ashy-grey Wren-warbler (E); Phutki (H).

Diagnosis : Length $\pm$ 11 cm; colour rufous brown; long tail tipped with black and white.

Habitat : Scrub and grass jungle, thorn bush, deciduous forest with undergrowth and bamboo thickets, hedges and bushes, mangrove swamps and reeds.

Distribution : Almost throughout India from sub-Himalayan region except certain parts of southern India.

Elsewhere : Indochinese subregion, Myanmar, Pakistan, Sri Lanka and Yunnan.

Residential Status : Resident.

Remarks : Observed on the bushes at the peripheral region of the forests of Guru Ghasidas and Sanjay N.P. Subspecies *hodgsonii*.

160. *Prinia socialis* Sykes

1982. *Prinia socialis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 413-414.

Common Name : Southern Ashy Wren-Warbler (E); Kali phutki (H)

Diagnosis : Length $\pm$ 13 cm; head, sides of neck and back dark ashy-grey; lores white; rest of under parts rufous brown; graduated tail with fulvous tips and blackish subterminal spots; under parts ochraceous; throat whitish buff.

Habitat : Banks of streams in deciduous forest, grassland, scrub jungle, near cultivation, grassy hill sides, reed bed and mangroves.

Distribution : Peninsular India, south of the Narmada River; unevenly distributed.

Elsewhere : Bangladesh, Pakistan and Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *socialis*.

161. *Prinia sylvatica* Jerdon

1982. *Prinia sylvatica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 414.

Common Name : Jungle Wren-warbler (E); Tot-rungi (H).

Diagnosis : Length $\pm$ 15 cm; upper parts brownish; white lores and a narrow supercilium; long graduated tail tipped with white except the central rectrices; under parts paler to creamy. Sexes alike.

Habitat : Stony hillsides with scrub, thorn, grass and bush jungle.

Distribution : Indian peninsula north from Maharashtra, northern Madhya Pradesh, Chhattishgarh south to Kanyakumari.

Elsewhere : Bangladesh and Sri Lanka.

Residential Status : Resident.

Remarks : Seen in Sanjay N.P.

162. *Orthotomus sutorius* (Pennant)

1982. *Orthotomus sutorius*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 418.

Common Name : Indian Tailor Bird (E); Darzee (H).

Diagnosis : Length $\pm$ 13 cm; yellowish green upper parts with rusty crown; under parts buffy; pointed tail usually placed erect in position while sitting. Sexes alike.

Habitat : Deciduous forest, gardens and even in the noisy city area.

Distribution : India : From Himalayan foothills to the extreme south.

Elsewhere : Bangladesh, China, Indochinese subregion, Java, Malay, Myanmar, Nepal, Pakistan, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *guzuratus*.

163. *Hippolais caligata* (Lichtenstein)

1982. *Hippolais caligata* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 426.

Common Name : Booted Warbler (E).

Diagnosis : Length $\pm$ 12 cm; upper parts pale olive-brown; under parts buffish white; short white supercilium.

Habitat : Deciduous scrub jungle, bush, long grass covered areas.

Distribution : Winter visitor to almost throughout India.

Residential Status : Migratory.

Remarks : Mostly seen on *Acacia* spp. bush inside and outskirts of Guru Ghasidas and Sanjay N.P.

164. *Phylloscopus collybita* (Vieillot)

1982. *Phylloscopus collybita*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 430.

Common Name : Brown Chiffchaff (E)

Diagnosis : Length $\pm$ 10 cm; upper parts pale olive-brown; short, white supercilium; under parts buffish white. Sexes alike.

Habitat : Bush, hedge, garden, groves, scrub and reed bed.

Distribution : Winter visitor to India, from lower Himalayas south to north Karnataka and western Maharashtra.

Palearctic species wintering south to tropical Africa, Middle East and Indian subregion.

Residential Status : Migratory.

Remarks : Observed mostly on *Acacia* spp. bush and Babool (*Acacia nylotica*) tree at the outskirts of the Sanjay and Guru Ghasidas N.P. and often visits inside the National Park for a long period. Subspecies *tristis*.

165. *Phylloscopus griseolus* Blyth

1982. *Phylloscopus griseolus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 432.

Common Name : Olivaceous leaf Warbler (E).

Diagnosis : Length $\pm$ 10 cm; upper parts grey-brown; yellow supercilium; pale eye ring and dark streak through eye; under parts yellow, little dusky on breast and flanks. Sexes alike.

Habitat : On rocks and rocky undulating plateau, steep sides of ravines in deciduous biotope up to at least 1000 m.

Distribution : Breeds in western Himalayan ranges and winters in India from Rajasthan, Gujarat east through Uttar Pradesh, Madhya Pradesh, up to lower West Bengal and south to Maharashtra and Andhra Pradesh.

Elsewhere : Afghanistan, Mongolia, Nepal (on passage), Pakistan, Tien Shan and Targaleatai.

Residential Status : Migratory.

Remarks : Observed in Kangerghati, and Sanjay N.P.

166. *Copsychus saularis* (Linnaeus)

1982. *Copsychus saularis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 455.

Common Name : Indian Magpie-Robin (E); Dhaiyal (H); Kali sooi chiria (Madhya Pradesh).

Diagnosis : Length $\pm$ 20 cm; long tailed black and white bird; *Male* : upper parts glossy blue-black; blackish-brown wings with a prominent long white patch; graduated tail with white outer rectrices; under parts white except blue-black throat; *Female* : upper parts slaty and under parts white except on grey throat and breast.

Habitat : Garden, orchard, groves, deciduous and open secondary forest.

Distribution : India : Almost throughout the country except certain parts of NE and southern region.

Elsewhere : Bangladesh, Indochinese and Malayasian subregion, Myanmar, Pakistan (In part), Sri Lanka and Yunnan.

Residential Status : Resident with local seasonal movement.

Remarks : Observed in the peripheral region of Guru Ghasidas and Sanjay N.P. but scarce in Kangerghati N.P.

167. *Copsychus malabaricus* (Scopoli)

1982. *Copsychus malabaricus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 455-456.

Common Name : Indian Shama (E); Shama (H).

Diagnosis : Length $\pm$ 25cm; *Male*: Upper parts mostly glossy black; rump white; throat and breast glossy black and rest of under parts rufous; graduated tail, outer rectrices white; central rectrices black and elongated. *Female*: black of male replaced by grey and under parts paler.

Habitat : Deciduous foothill forests with bamboo and dense undergrowth.

Distribution : India : Unevenly distributed in Himalayan foothill forests, northern West Bengal, NE States, northern and eastern Uttar Pradesh, Bihar, Jharkhand, eastern Maharashtra, Chhattisgarh and Eastern Ghats complex from Orissa south to the Cauvery river.

Elsewhere : Bangladesh, Indochinese and Malayasian subregions, Myanmar, Sri Lanka and Yunnan.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *indicus*.

Family PARIDAE

168. *Parus major* Linnaeus

1982. *Parus major*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 494-495.

Common Name : Indian Grey Tit (E).

Diagnosis : Length $\pm$ 13 cm; a small grey bird with black crown and white cheeks, nape patch and wing bar; wings dark brown; throat black; a broad black band running down the middle of under parts; flanks ashy.

Habitat : Light deciduous forest, groves and orchards.

Distribution : India : From Rajasthan east to Orissa, south throughout the peninsula except Kerala.

Elsewhere : Indochinese and Malayasian subregion and Palearctic region.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *stupae*.

169. *Parus xanthogenys* Vigors

1982. *Parus xanthogenys*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p.499.

Common Name : Central India Yellow-cheeked Tit (E).

Diagnosis : Length $\pm$ 14 cm; a black and yellow crested tit; upper parts dull olive green; pointed upstanding crest and a band behind eye black; a long yellow supercilium joins with prominent yellow nape patch; wings spotted with white; under parts bright yellow; female with greyish-olive ventral median band.

Habitat : Well wooded country, chiefly on the elevated plateau and hills.

Distribution : Indian : From eastern Gujarat and adjacent Rajasthan east to Jharkhand, Orissa and south through Eastern Ghats up to Krishna river and in the Western Ghats to Mahabaleshwar; not common in the coastal belts.

Elsewhere : nepal and Pakistan.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *aplnotus*.

Family SITTIDAE

170. *Sitta castanea* Lesson

1982. *Sitta castanea*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 506.

Common Name : Chestnut bellied Nuthatch (E); Siri (H).

Diagnosis : Length $\pm$ 12 cm; a bluish grey bird with prominent white malar patch; a black band from lores to upper back; under parts chestnut; *Female* : under parts cinnamon.

Habitat : Deciduous forest and light wood country.

Distribution : India : Lowlands and foothills of the Himalayas and lower hills of the peninsula.

Elsewhere : Bangladesh, Indochinese subregion and Myanmar.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

Family MOTACILLIDAE

171. *Anthus hodgsoni* Richmond

1982. *Anthus hodgsoni*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 513.

Common Name : Indian Tree Pipit (E); Musarichi (H).

Diagnosis : Length $\pm$ 15 cm; a greenish brown bird streaked with dark brown, double wing bar and outer rectrices white; under parts buffy white, streaked with dark brown on breast and flanks. Sexes alike.

Habitat : Grassy slopes, rocky ground and glades in open forest.

Distribution : Breeds in Himalayas and winters throughout the country.

Elsewhere : Eastern Asia, Winters to Bangladesh, Korea, Philippines and Indochinese country.

Residential Status : Migratory.

Remarks : Seen on the open rocky slope of Sanjay N.P.

172. *Motacilla indica* Gmelin

1982. *Motacilla indica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 519.

Common Name : Forest Wagtail (E); Pilkiya (H).

Diagnosis : Length $\pm$ 17 cm; back olive-brown; tail dark brown; outer rectrices white; supercilium and eye-ring pale; blackish-brown wing with two yellow bands; chin white; a blackish-brown collar across throat and another interrupted band on breast. Sexes alike.

Habitat : Evergreen and deciduous forest with bamboo thickets.

Distribution : Very locally and capriciously distributed, winters to SW India and rests as passage migrant throughout the Indian Union except NW region; breeds in Assam.

Elsewhere : Breeds from Ussuri region south through Korea, Manchuria and China to Kweichow and SW Szechuan and winters in Bangladesh, southern China, the Indochinese countries, Sumatra, Java, and Borneo.

Residential Status : Mostly winter migrant.

Remarks : Seen in Kangerghati N.P. near Kangerdhara.

173. *Motacilla flava* Linnaeus

1982. *Motacilla flava*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 519.

Common Name : Greyheaded yellow Wagtail (E); Pilkya (H).

Diagnosis : Length $\pm$ 17 cm; back olive; two yellow bars on brown wing; head, nape and ear coverts dark slaty-grey; tail dark brown with white outer edge; under parts yellow from chin to under tail-coverts. Sexes alike.

Habitat : Along river side and jheel margins.

Distribution : Winters in India from the plains of Ganges south to Kanyakumari; passage migrant in the Himalayas west of Simla; Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Pakistan, Africa south of Sahara as winter visitor and breeds from Scandinavia to NW Siberia.

Residential Status : Migratory.

Remarks : Observed in Kangerghati and Guru Ghasidas N.P. Subspecies *thunbergi*.

173. Subspecies *beema* is like *thunbergi* but head pale bluish grey instead of dark slate grey with a prominent white supercilium and a white malar streak; upper parts of female olive-brown except head and under parts paler yellowish than male. Sexes alike.

Common Name : Blue headed yellow wagtail (E); Pilkya (H).

Distribution : Common winter visitor to India, from the plains of the Ganges south to Andhra Pradesh, Kerala, east to Assam and also in Nicobar Islands. Breeds in Ladakh and most probably in northern Kashmir also.

Elsewhere : Afghanistan, Bangladesh, Maldives, Pakistan; breeds in central Palaearctic from the Volga to Baikal, winters also in eastern Africa south to Kenya and Uganda.

Residential Status : Migratory.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. on the sandbanks of the rivers and rivulets.

174. *Motacilla alba* Linnaeus

1982. *Motacilla alba*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 522.

Common Name : Indian White Wagtail (E); Dhoban (H).

Diagnosis : Length $\pm$ 18 cm; black and white wagtail; forehead, sides of head and around the eyes white; a large black patch on hind crown and nape; back and rump ashy; wings brownish, coverts and tertials broadly margined with white; tail blackish brown with white outer rectrices; under parts white with a large crescent shaped black patch on breast; sides of breast and flanks ashy. Sexes alike.

Habitat : Vicinity of rivers, streams, flooded area etc.

Distribution : Wintering from the Himalayan foothills south to Karnataka and Andhra Pradesh.

Elsewhere : Bangladesh, Nepal, Pakistan, Sri Lanka; breeds from Yenisey to the Ural Mts. and ranges over the whole of Eurasia from the Chukchi Peninsula, Japan and China

west to Morocco, British Isles and Iceland and winters from the southern parts of the breeding range south to the Arabia, Congo, Kenya, Indochinese countries and Philippines.

Residential Status : Migratory.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *dukhunensis*.

175. *Motacilla maderaspatensis* Gmelin

1982. *Motacilla maderaspatensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 523.

Common Name : Large Pied Wagtail (E); Khanjan (H).

Diagnosis : Length $\pm$ 21 cm; large black and white wagtail; upper parts black with a conspicuous white supercilium from lores to nape, a large white band on wing and white outer rectrices; throat and breast black, rest of under parts white, little ashy on flanks.

Habitat : Vicinity of flowing water courses in rocky area, dammed waters and sometimes irrigated fields also.

Distribution : India : From the Himalayan foothills south to Kanyakumari.

Elsewhere : Pakistan.

Residential Status : Resident.

Remarks : Observed on the river beds of Kangerghati, Guru Ghasidas and Sanjay N.P.

Family CAMPEPHAGIDAE

176. *Hemipus picatus* (Sykes)

1982. *Hemipus picatus* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 297.

Common Name : Blackbacked Pied Flycatcher Shrike (E); Chhota kâlā lâtöra (H).

Diagnosis : Length $\pm$ 14 cm; a black and white bird; *Male* : Black upper parts and white under parts and rump; a white collar round the hind neck; wings and tail black and white; *Female* : Black of male replaced by shooty brown.

Habitat : Usually mixed deciduous forest with bamboo as well as cardamom plantation areas near forest tracts.

Distribution : India : Central and peninsular India except southern Kerala.

Elsewhere : Bangladesh, Borneo, Indochinese countries, Malay Peninsula, Southern Thailand and Sumatra.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *picatus*.

177. *Tephrodornis pondicerianus* (Gmelin)

1982. *Tephrodornis pondicerianus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 298.

Common Name : Indian Wood Shrike (E); Keroula (H).

Diagnosis : Length $\pm$ 16cm; a square-tailed greyish brown shrike-like bird with a dark stripe below the eye from lores to ear-coverts, and a conspicuous whitish supercilium; outer tail feathers white; eye streak in female paler. Sexes alike.

Habitat : Deciduous forest and lightly wooded country.

Distribution : India : Almost throughout except NW region.

Elsewhere : Bangladesh, extending east to Thailand and Laos.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *pondicerianus*.

178. *Coracina novaehollandiae* (Gmelin)

1982. *Coracina novaehollandiae*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 299.

Common Name : Indian Large Cuckoo Shrike (E); Kāsya (H).

Diagnosis : Length $\pm$ 28 cm; colour grey with a broad dark eye-streak; wings and tail black; crow like bill; under parts whitish; female has paler eye-streak.

Habitat : Light deciduous and mixed forest as well as gardens and plantations.

Distribution : India : Almost throughout except NW and NE region.

Elsewhere : Southern China towards south across Malaysia to Australia and adjacent island.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P.

179. *Coracina melaschistos* (Hodgson)

1982. *Coracina melaschistos*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 300.

Common Name : Dark Grey Cuckoo-Shrike (E).

Diagnosis : Length $\pm$ 22 cm; colour bluish-grey with a dark eye stripe; wing and tail black; rectrices marked with white; female paler, sometimes with lightly barred under parts.

Habitat : Riverine bamboo and open forest, pine, oak and chestnut wood jungle, abandoned land and groves.

Distribution : Breeds in summer throughout the Himalayan range and wintering south upto Karnataka.

Elsewhere : Bangladesh, Bhutan, central and eastern China, Formosa and Indochinese subregion, Nepal, Pakistan.

Residential Status : Migratory.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

180. *Pericrocotus flammeus* (Forster)

1982. *Pericrocotus flammeus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 301.

Common Name : East Indian Scarlet Minivet (E).

Diagnosis : Length $\pm$ 22 cm; **Male** : head, neck and upper back glossy black with little bluish tinge, lower back and rump deep scarlet; wings and tail red and black; under parts bright scarlet and throat black. **Female** : Female yellowish with black and yellow wings and tail.

Habitat : Moist-deciduous and evergreen forest of the hill tracts.

Distribution : India : From western Madhya Pradesh to Orissá, southern Bihar and West Bengal, northern Andhra Pradesh and Chhattisgarh.

Residential Status : Resident.

Remarks : Observed in Kangerghati, N.P. Subspecies *semiruber*.

181. *Pericrocotus cinnamomeus* (Linnaeus)

1982. *Pericrocotus cinnamomeus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 304.

Common Name : Southern Small Minivet (E); Sāhili (H).

Diagnosis : Length $\pm$ 15 cm; **Male** : Head, throat and back dark grey, rump orange red; wings black with a yellow-orange patch; a long tail, black above, yellow-orange below; breast bright orange becoming yellow on belly. **Female** : upper parts paler, under parts whitish grey suffused with yellow.

Habitat : Mostly deciduous forest.

Distribution : India : From Gujarat, southern Rajasthan, Madhya Pradesh, Chhattisgarh and southern Orissa, south throughout Peninsula except SW region.

Elsewhere : Indochinese subregion, Malaysian islands east to Flores, Pakistan and Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *cinnamomeus*.

Family IRENIDAE

182. *Aegithina tiphia* (Linnaeus)

1982. *Aegithina tiphia* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 305-306.

Common Name : Indian Iora (E); Shaubeega (H).

Diagnosis : Length $\pm$ 14 cm; **Male** : crown, nape and back greenish-yellow; chin, throat and breast yellow; black wings with two white wing bars; tail black. **Female** : yellowish-green, wing greenish-brown with two white bars.

Habitat : Light deciduous type of forest, wooded compound, groves, scrub *etc.*

Distribution : India (mostly south upto 20° N): Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar Pradesh.

Elsewhere : From Bangladesh east to Indochinese subregion, Yunnan, south to Malay, Sumatra and Borneo.

Residential Status : Resident.

Remarks : Observed in Guru Ghasidas and Sanjay N.P. Subspecies *humei*.

182. Subspecies *deignani* is distributed in light deciduous forest and semi-cultivation of Indian Peninsula south of 20° N Lat., excepting southern Kerala. This resident bird was observed only in Kangerghati N.P.

183. *Chloropsis aurifrons* (Temminck)

1982. *Chloropsis aurifrons*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 307.

Common Name : Goldfronted Chloropsis (E); Hãrìwã (H).

Diagnosis : Length $\pm$ 19 cm; colour leafgreen with orange forehead, black chin, lores, throat, ear coverts and round the eye.

Habitat : Dense-evergreen, open deciduous, scrub jungle.

Distribution : India : Common in southern Gujarat and Maharashtra from the Tapi river south through Goa, western Mysore, western Tamil Nadu to the Palghat Gap and Eastern Ghats in Tamil Nadu, Andhra Pradesh and Bastar district in Chhattisgarh.

Elsewhere : Himalayas east to Indochinese subregion and Sumatra.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *frontalis*.

184. *Chloropsis cochinchinensis* (Gmelin)

1982. *Chloropsis cochinchinensis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 308.

Common Name : Jerdon's Chloropsis (E); Hãrìwã (H).

Diagnosis : Length $\pm$ 18 cm; *Male* : colour green; forehead yellowish green; chin and throat black but not extending behind eye; broad yellow ring around black throat. *Female* : chin and throat pale bluish green; cheek stripe bright greenish blue.

Habitat : Secondary scrub jungle, forest edge, light forest, leafy trees in village outskirts etc.

Distribution : India : From Gulf of Cambay to central U.P. east to West Bengal and south throughout Peninsula.

Elsewhere : Indochinese subregion and Malaysian subregion.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *jerdoni*.

Family PYCNONOTIDAE

185. *Pycnonotus melanicterus* (Gmelin)

1982. *Pycnonotus melanicterus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 310.

Common Name : Black crested yellow Bulbul (E); Zard bulbul (H).

Diagnosis : Length $\pm$ 18cm; colour olive-yellow; head, throat and crest glossy black; tail brownish; under parts yellow, little dark on breast; eyes pale yellow.

Habitat : Forest with plenty of undergrowth, dense secondary jungle.

Distribution : India : From Himachal Pradesh east to Assam, Nagaland and Manipur; Terai and Duars; Gonda in U.P., Bettiah in Bihar, Bastar district in Chhattisgarh, Orissa and NE Andhra Pradesh.

Elsewhere : Arakan, Bangladesh, Bhutan, Indochinese subregion and Malaysian subregion, Myanmar, Nepal and western Yunnan.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *flaviventris*.

186. *Pycnonotus jocosus* (Linnaeus)

1982. *Pycnonotus jocosus*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 311.

Common Name : Redwhiskered Bulbul (E); Pahari Bulbul (H).

Diagnosis : Length $\pm$ 20 cm; forehead and crown black with pointed black crest; upper parts brown; crimson tufts behind the eyes; chin, throat and belly white with dark collar on breast; under tail coverts scarlet.

Habitat : Scrub jungle, forest edge and semi-cultivation.

Distribution : India: Andhra Pradesh, Chhattisgarh (Bastar), Orissa, Tamil Nadu, Tripura, West Bengal.

Elsewhere : Bangladesh, Indochina, Myanmar, Tsouthern China, Tenasserim, Thailand.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P. Subspecies *emeria*.

187. *Pycnonotus cafer* (Linnaeus)

1982. *Pycnonotus cafer* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 312.

Common Name : Indian Redvented Bulbul (E); Kala Bulbul (H).

Diagnosis : Length $\pm$ 20 cm; colour pale brown, tufted head and throat black; scale like markings on back and breast; white rump, scarlet vent and white-tipped blackish tail.

Habitat : Lightly wooded forest, cultivation, garden, scrub *etc.*

Distribution : India : Throughout.

Elsewhere : Pakistan. Bangladesh, Sri Lanka, Indochinese subregion and Java.

Residential Status : Resident.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. near peripheral region and on *Acacia* spp. bush inside the forest.

Family DICAEDAE

188. *Dicaeum agile* (Tickell)

1982. *Dicaeum agile* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 524.

Common Name : Indian Thick billed Flowerpecker (E).

Diagnosis : Length $\pm$ 9 cm; colour olive-grey on back; green on rump; under parts greyish-white lightly marked with brown at breast; tail stumpy with a white terminal band; bill short and thick. Sexes alike.

Habitat : Dry, moist-deciduous and semi-evergreen forests, orchards, groves and gardens.

Distribution : India : From Himalayan foothill south upto 11° N Lat. and Kerala; west from a line from Punjab and Gujarat east to NE India, West Bengal, Orissa, Andhra Pradesh and part of Tamil Nadu.

Elsewhere : Bangladesh, Bhutan, Indochinese countries, Malayasia, Myanmar, Lesser Sunda, Pakistan and Philippine islands.

Residential Status : Resident.

Remarks : Observed in Kangerghati and Guru Ghasidas N.P.

189. *Dicaeum erythrorhynchos* (Latham)

1982. *Dicaeum erythrorhynchos*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 525.

Common Name : Tickell's Flowerpecker (E); Phoolchuki (H).

Diagnosis : Length $\pm$ 8 cm; upperparts olive-brown; under parts greyish white.

Habitat : Deciduous forest; forest plantation; groves, orchards *etc.*

Distribution : India : From Himachal Pradesh east through sub-Himalayan foothills to NE India south to West Bengal, Bihar, Jharkhand and throughout the Indian Peninsula.

Elsewhere : Bangladesh, Bhutan, from Myanmar south to Tenasserim and Nepal.

Residential Status : Resident.

Remarks : Observed in Kangerghati and Guru Ghasidas (Rihand range) N.P.

Family NECTARINIIDAE

190. *Nectarinia zeylonica* (Linnaeus)

1982. *Nectarinia zeylonica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 528.

Common Name : Indian Purple-rumped Sunbird (E); Shakar Khora (H).

Diagnosis : Length $\pm$ 10 cm; *Male* : metallic green crown; deep chestnut back; metallic purple rump; metallic green shoulder patch; metallic purple throat; sides of head and band across lower throat deep chestnut; breast and centre of belly lemon yellow; flanks grayish white. *Female* : upper parts brown, more rufous on wing; throat and flanks greyish white; breast and centre of belly lemon-yellow.

Habitat : Prefers deciduous biotope.

Distribution : India : Throughout.

Elsewhere : Bangladesh, Myanmar, Sri Lanka.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P.

191. *Nectarinia asiatica* (Latham)

1982. *Nectarinia asiatica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 530.

Common Name : Indian Purple Sunbird (E); Phul soongni (H).

Diagnosis : Length $\pm$ 10 cm; **Male** : colour looks like glistening black but actually a mixture of glistening metallic purplish blue, green and black; in non breeding season males may appear with olive-brown plumage with black wing and tail; under parts yellow with a broad blue-black band through middle of throat and breast. **Female**: upper parts olive-brown; under parts dull yellow.

Habitat : Light deciduous forest, semi-cultivation, gardens *etc.*

Distribution : India : Almost throughout, in extreme western and eastern parts it integrates with other subspecies.

Elsewhere : Arabia, Afghanistan, Bangladesh, Indochinese subregion, Myanmar, Muscat, Nepal, Sri Lanka.

Residential Status : Resident but moves locally.

Remarks : Observed in Kangerghati, Guru Ghasidas and Sanjay N.P. Subspecies *asiatica*.

Family ZOSTEROPIDAE

192. *Zosterops palpebroso* (Temminck)

1982. *Zosterops palpebroso* Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 535.

Common Name : Indian White-eye (E); Baboona (H).

Diagnosis : Length $\pm$ 10cm; colour olive-yellow with a distinct white eye-ring; under eye patch and lores blackish; throat and under tail coverts bright yellow; rest of under parts dirty white.

Habitat : Forests, groves, gardens, orchards; mostly seen on hanging creepers near caves and crevices or water falls.

Distribution : Almost throughout India except Rajasthan, part of Andhra Pradesh and Maharashtra, Tamil Nadu, Kerala and partly Karnataka. **Elsewhere** : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka, east to Philippines.

Residential Status : Resident.

Remarks : Observed near Kotomsar cave and Tirathgarh falls of Kangerghati N.P. Subspecies *palpebroso*.

Family PLOCEIDAE

193. *Petronia xanthocollis* (Burton)

1982. *Petronia xanthocollis*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 540.

Common Name : Yellow throated sparrow (E); Raji (H).

Diagnosis : Length $\pm$ 14 cm; colour grey-brown with dark wing and tail; chestnut shoulder patch; two white wing bars; under parts pale grey-brown to white with a prominent yellow throat patch which is rather pale in female.

Habitat : Dry deciduous forest, scrub and thorn bushes, groves, hedges *etc.*

Distribution : India : Almost throughout the country except high Himalaya.

Elsewhere : Afghanistan, Iran, Iraq, Nepal and Pakistan.

Residential Status : Resident but moves locally.

Remarks : Observed in all the three National Parks but population comparatively less in Kangerghati.

194. *Lonchura malabarica* (Linnaeus)

1982. *Lonchura malabarica*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 546.

Common Name : White throated Munia (E); Charchara (H).

Diagnosis : Length $\pm$ 10 cm; colour earthy brown; rump white; bill thick and slaty blue or greyish black in colour; pointed tail and wings dark brown; under parts creamy white.

Habitat : Light secondary forest, cultivation, grass land, scrub jungle *etc.* and prefers drier areas.

Distribution : India : Almost throughout, in low country dry zone.

Elsewhere : Arabia, Afghanistan, Africa, Bangladesh, Pakistan and Sri Lanka.

Residential Status : Resident.

Remarks : Observed near the forest rest house and on the bushes of the outskirts of the forests of all the three National Parks.

195. *Lonchura striata* (Linnaeus)

1982. *Lonchura striata*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 546.

Common Name : White backed munia (E).

Diagnosis : Length $\pm$ 10cm; colour dark brown with pale shaft streak; rump white; throat and breast dark brown; rest of under parts creamy white.

Habitat : Deciduous biotope.

Distribution : India : Throughout.

Elsewhere : From Bangladesh east to Myanmar and Indochinese subregion, Malay, Nepal, Sri Lanka and Sumatra.

Residential Status : Resident.

Remarks : Observed in Kangerghati N.P.

196. *Lonchura punctulata* (Linnaeus)

1982. *Lonchura punctulata*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 547.

Common Name : Indian Spotted Munia (E); Telia munia (H).

Diagnosis : Length $\pm$ 10 cm; upper parts chocolate brown; upper tail coverts and tail tawny-olive; rump barred with white; head, neck and lower throat chestnut; breast and flanks speckled black and white; belly white.

Habitat : Secondary jungle with scrub and trees, bush-clad hill sides, grass land, garden and cultivation.

Distribution : India : Almost throughout except the extreme western part.

Elsewhere : Bangladesh east to Sulawesi.

Residential Status : Resident.

Remarks : Observed on the bushes, mostly at the outskirts of the Kangerghati, Guru Ghasidas and Sanjay N.P.

Family EMBERIZIDAE

197. *Emberiza melanocephala* Scopoli

1982. *Emberiza melanocephala*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 569.

Common Name : Black headed Bunting (E); Gandam (H).

Diagnosis : Length $\pm$ 18 cm; **Male** : crown and sides of head black; back and rump rufous; double white wing bar; under parts lemon yellow; sides of head pale rufous. **Female** : upper parts fulvous brown with dark streaks; under parts buffish-white; sides pale brown; under tail coverts yellow.

Habitat : Cereal cultivation.

Distribution : Winter visitor to western and central India in Rajasthan, Gujarat, Madhya Pradesh, Chhattisgarh, Jharkhand, Maharashtra and Karnataka. On passage recorded from NW India.

Elsewhere : Balkans, Caucasus, Iran, Middle-East and southern Russia, SE Europe and migrates to Pakistan.

Residential Status : Migratory.

Remarks : It was seen to feed on cereals in the fields near Guru Ghasidas and Kangerghati National Parks but roosts inside the Parks.

198. *Melophus lathami* (Gray)

1982. *Emberiza lathami*, Ripley, A synopsis of the Birds of India and Pakistan, Bombay Natural History Society, p. 575.

Common Name : Crested Bunting (E); Patthar chiria (H).

Diagnosis : Length ± 15 cm; *Male* : Black with chestnut wings and tail; long pointed crest. *Female* : Olive-brown with dark brown streaks; crest short; under parts yellowish buff with dark markings on breast.

Habitat : Open stony dry-deciduous forest or scrubbed hill sides, charred grassy patches in the forest and in winter also on rice stubbles.

Distribution : India : From Himalayan foothills south to eastern Rajasthan, Gujarat, SW Maharashtra, northern Andhra Pradesh, eastern Madhya Pradesh, Jharkhand, Sikkim and northeastern region.

Elsewhere : Bangladesh, Bhutan, China west, Nepal, Pakistan east to Indocinese subregion and southern China.

Residential Status : Resident with vertical movement; local and capricious.

Remarks : Observed in Guru Ghasidas and Sanjay N.P.

SUMMARY

This work recorded 198 avian species under 127 genera, 47 families and 18 orders from Kangerghati, Guru Ghasidas and Sanjay National Parks. Out of 198 species 2 species are endemic.

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ANNEXURE – I

**A LIST OF NAMES USED BY RIPLEY (1982) AND STANDARDISED BY
MANKADAN AND PITTIE (2001)**

Sl. No.	Scientific Name (after Ripley 1982)	Standardised Name (after Mankadan & Pittie 2001)
1.	<i>Podiceps ruficollis</i> (Pallas)	<i>Tachybaptus ruficollis</i> (Pallas)
2.	<i>Vanellus spinosus</i> (Linnaeus)	<i>Vanellus duvaucelii</i> (Lesson)
3.	<i>Pluvialis dominica</i> (P.L.S. Muller)	<i>Pluvialis fulva</i> (Gmelin)
4.	<i>Tringa hypoleucos</i> Linnaeus	<i>Actitis hypoleucos</i> Linnaeus
5.	<i>Ducula aenea</i> (Linnaeus)	<i>Treron aenea</i> (Linnaeus)
6.	<i>Rhophodytes tristis</i> (Lesson)	<i>Phaenicophaeus tristis</i> (Lesson)
7.	<i>Rhophodytes viridirostris</i> (Jerdon)	<i>Phaenicophaeus viridirostris</i> (Jerdon)
8.	<i>Toccocua leschenaulti</i> (Lesson)	<i>Phaenicophaeus leschenaulti</i> (Lesson)
9.	<i>Bubo zeylonensis</i> (Gmelin)	<i>Ketupa zeylonensis</i> (Gmelin)
10.	<i>Apus melba</i> (Linnaeus)	<i>Tachymarptis melba</i> (Linnaeus)
11.	<i>Chaetura sylvatica</i> (Tickell)	<i>Zoonavena sylvatica</i> (Tickell)
12.	<i>Hemiprocne longipennis</i> (Rafinesque)	<i>Hemiprocne coronata</i> (Tickell)
13.	<i>Pelargopsis capensis</i> (Linnaeus)	<i>Halcyon capensis</i> (Linnaeus)
14.	<i>Tockus birostris</i> (Scopoli)	<i>Ocyrceros birostris</i> (Scopoli)
15.	<i>Micropternus brachyurus</i> (Vieillot)	<i>Celeus brachyurus</i> (Vieillot)
16.	<i>Picus myrmecophoneus</i> Stresemann	<i>Picus xanthopygaeus</i> (J.E. Gray & G.R. Gray)
17.	<i>Picoides macei</i> (Vieillot)	<i>Dendrocopos macei</i> (Vieillot)
18.	<i>Picoides mahrattensis</i> (Latham)	<i>Dendrocopos mahrattensis</i> (Latham)
19.	<i>Picoides nanus</i> (Vigors)	<i>Dendrocopos nanus</i> (Vigors)
20.	<i>Mirafra javanica</i> Horsfield	<i>Mirafra cantillans</i> Blyth
21.	<i>Motacilla indica</i> (Gmelin)	<i>Dendronanthus indicus</i> (Gmelin)

Sl. No.	Scientific Name (after Ripley 1982)	Standardised Name (after Mankadan & Pittie 2001)
22.	<i>Coracina novaehollandiae</i> (Gmelin)	<i>Coracina macei</i> (Lesson)
23.	<i>Dicrurus adsimilis</i> (Bechstein)	<i>Dicrurus macrocercus</i> Vieillot
24.	<i>Muscicapa parva</i> Bechstein	<i>Ficedula parva</i> Bechstein
25.	<i>Muscicapa rubeculoides</i> (Vigors)	<i>Cyornis rubeculoides</i> (Vigors)
26.	<i>Muscicapa tickellie</i> (Blyth)	<i>Cyornis tickellie</i> Blyth
27.	<i>Muscicapa thalassina</i> Swainson	<i>Eumyias thalassina</i> (Swainson)
28.	<i>Coracina novaehollandiae</i> (Gmelin)	<i>Coracina macei</i> (Lesson)
29.	<i>Zosterops palpebrosa</i> (Temminck)	<i>Zosterops palpebrosus</i> (Temminck)
30.	<i>Pycnonotus melanicterus</i> (Gmelin)	* <i>Pynonotus melanicterus</i> (Gmelin)
31.	<i>Pycnonotus jocosus</i> (Linnaeus)	* <i>Pynonotus jocosus</i> (Linnaeus)
32.	<i>Pycnonotus cafer</i> (Linnaeus)	* <i>Pynonotus cafer</i> (Linnaeus)

* May be spelling mistake in the original list

REPTILIA

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INTRODUCTION

Specifically there is no publication dealing with the reptile fauna of Kangerghati, Guru Ghasidas and Sanjay National Parks, but a couple of papers by Sanyal and Dasgupta (1990) and Sanyal (1995) dealt with the reptile fauna of Bastar District, M.P.

Investigation on the reptiles of Madhya Pradesh (earlier known as Central Province) have been carried out by Bannerman and Pocha (1905), Cholmondeley (1908), Cooke and Bernard (1911), D'Abreu (1913a, 1913b, 1915, 1917, 1918, 1932), Wall (1913, 1923), Luard (1917), Bathye (1944), Ahmed (1945), Rao and Choudhury (1966), Bustard (1980), Kalaiarasan *et al.* (1991), Saxena (1991, 1993), Bhupathy (1995), Sanyal and Sur (1995), Chandra and Gajbe (2005).

During the present study 46 species of reptiles were observed and identified from the three National Parks of which 3 species of turtles and tortoises belong to order Testudines, 1 species of crocodile belongs to order Crocodylia and 42 species belong to order Squamata of which 23 lizard and 19 snake species belong to Sub-order Squamata and Ophidia respectively.

List of Species with availability and Status

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
	Order TESTUDINES				
	Family BATAGURIDAE				
1.	<i>Pangshura tentoria tentoria</i> Gray	+	-	-	LR/lc
	Family TRIONYCHIDAE				
2.	<i>Lissemys punctata punctata</i> (Bonnaterre)	+	-	-	LR/lc
	Family TESTUDINIDAE				
3.	<i>Geochelone elegans</i> (Schoepff)	-	+	+	LR/lc
	Order CROCODYLIA				

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
4.	Family CROCODYLIDAE <i>Crocodylus palustris</i> Lesson Order SQUAMATA Sub-order SAURIA Family GEKKONIDAE	+			VU
5.	<i>Hemidactylus brookii</i> Gray	+	+		
6.	<i>Hemidactylus flaviviridis</i> Ruppell	+			
7.	<i>Hemidactylus triedrusi</i> (Daudin)	+			
8.	<i>Hemidactylus gracilis</i> Blanford		+		
9.	<i>Hemidactylus frenatus</i> Schlegel	+	+		
10.	<i>Hemidactylus giganteus</i> Stoliczka	+			
11.	<i>Hemidactylus leschenaulti</i> Dum.& Bibr.			+	
12.	<i>Hemidactylus maculatus</i> Dum.& Bibr.	+			
13.	<i>Hemidactylus reticulatus</i> Beddome		+	+	
14.	<i>Hemidactylus subtriedrus</i> Jerdon	+			
15.	<i>Geckoella nebulosa</i> (Beddome) Family AGAMIDAE	+			
16.	<i>Calotes versicolor</i> (Daudin)	+	+	+	
17.	<i>Psammophilus blanfordianus</i> (Stoliczka)	+	+		
18.	<i>Sitana ponticeriana</i> Cuvier Family SCINCIDAE	+	+	+	
19.	<i>Mabuya carinata</i> (Schneider)	+	+	+	
20.	<i>Mabuya macularia</i> (Blyth)	+	+	+	
21.	<i>Mabuya dissimilis</i> (Hallowell)	+			
22.	<i>Lygosoma albopunctata</i> (Gray)	+	+	+	
23.	<i>Lygosoma punctata</i> (Gmelin) Family CHAMAELEONIDAE		+	+	
24.	<i>Chamaeleo zeylanicus</i> Laurenti		+		

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
	Family VARANIDAE				
25.	<i>Varanus bengalensis</i> (Linnaeus)	+	+		
	Family LACERTIDAE				
26.	<i>Ophisops leschenaulti</i> (Milne-Edwards)	+			
27.	<i>Ophisops jerdoni</i> Blyth	—	+	+	
	Sub-order SERPENTES				
	Family TYPHLOPIDAE				
28.	<i>Ramphotyphlops braminus</i> (Daudin)	+			
	Family BOIDAE				
29.	<i>Python molurus</i> (Linnaeus)	+	+	+	LR/nt
30.	<i>Gongylophis conicus</i> (Schneider)		+	+	
31.	<i>Eryx johnii</i> (Russell)			+	
	Family COLUBRIDAE				
32.	<i>Amphiesma stolata</i> (Linnaeus)	+			
33.	<i>Xenochrophis piscator</i> (Schneider)	+	+		
34.	<i>Ptyas mucosa</i> (Linnaeus)	+		+	
35.	<i>Lycodon aulicus</i> (Linnaeus)	+	+	+	
36.	<i>Argyrogena fasciolatus</i> (Shaw)	+			
37.	<i>Ahaetulla nasuta</i> (Lacépède)	+			
38.	<i>Boiga trigonata</i> (Schneider)		+	+	
39.	<i>Coelognathus helena</i> (Daudin)		+		
40.	<i>Coelognathus radiatus</i> (Schlegel)	+			
	Family ELAPHIDAE				
41.	<i>Bungarus fasciatus</i> (Schneider)	+			
42.	<i>Bungarus caeruleus</i> (Schneider)		+	+	
43.	<i>Naja naja</i> (Linnaeus)	+	+	+	
44.	<i>Daboia russelli</i> (Shaw)	+	+	+	
45.	<i>Echis carinatus</i> (Schneider)			+	
46.	<i>Trimeresurus gramineus</i> (Shaw)		+		

1. Order TESTUDINES

1. Family BATAGURIDAE

1. *Pangshura tentoria tentoria* (Gray)

1834. *Emys tentoria* Gray, *Proc. zool. Soc.*, p. 54.

Common Name : Indian Tent Turtle (E).

Diagnosis : Size $\pm$ 27 cm; carapace brown with an amber or hazel stripe along the first three vertebrals; plastron yellow with large black blotches; head olive or brownish, with a red postocular spot and indistinct band behind the eyes. Digits distinct, webbed with 4 or 5 claws; shell covered with horny shield; 4th vertebral shield much longer than broad, longer than 3rd.

Habitat : Primarily riverine, in both large and small.

Distribution : India : Orissa, Andhra Pradesh, Madhya Pradesh, Chhattisgarh and Maharashtra.

Elsewhere : Bangladesh, Nepal and Pakistan.

Remarks : Observed in Kangerghati National Park.

2. Family TRIONYCHIDAE

2. *Lissemys punctata punctata* (Bonnaterre)

1789. *Testudo punctata* Bonnatarre, In : Daubenton's Tab. Encycl. Meth., *Erpet.*, p. 30, pl. 6.

Common Name : South Indian Flap-shelled Turtle (E.); Abhua, Matia (H).

Diagnosis : Size $\pm$ 24 cm; colour olive-brown, may possess light longitudinal markings; head moderately large, snout short and broad; carapace and plastron covered by a continuous sheet of soft skin and their callosities finely granulated; lateral and hinder portions of carapace most flexible; neural bones two in number and rest between the first pair of costal plates; first marginal bone smaller than the second; entoplastron callosity very large and sometimes in contact with the hyo-hypo plastral callosities; plastron soft with seven callosities viz. hyo-hypo, xiphi, epiplastral and a single entoplastral; limbs webbed with three claws on each foot; digits distinct with three claws; plastron with a cuneate femoral valve.

Habitat : Ponds and marshlands and sometimes may be in rivulets.

Distribution : Peninsular India.

Elsewhere : Sri Lanka.

Remarks : Observed in Bhaisadohra, Kangerghati N.P.

3. Family TESTUDINIDAE

3. *Geochelone elegans* (Schoepff)

1792. *Testudo elegans* Schoepff, *Hist. Test.*, p. 111, pl. 25.

Common Name : Star-shelled Tortoise (E).

Diagnosis : Size ± 16 cm (Male), ± 25 cm (Female); limbs cylindrical; digits not webbed, 4 or 5 claws; each of the large scutes of the carapace with a yellow areola from which a number of radiating yellow streaks extend to the margins of the scute; the background colour of the carapace black or dark brown; subsidiary radiating streaks present; radiations continued on the plastron; the forelimbs with large scales and yellow in colour; the head basically yellow and somewhat bulging in the nasal region; males have narrow, relatively smooth shells and often have rather dingy markings compared to those of the females; in males the supra-caudal scute is extended downward over the tail; only single supra-caudal shield; vertebral and costal shields forming most prominent humps in adult individuals; nuchal shield absent; plastron with dark radiating lines; top of head with irregular shields.

Habitat : Rocky, grassy arid areas with plenty of other vegetation.

Distribution : Peninsular India and offshore islands like Karadura and Rameswaram extending west upto Rajasthan and Gujarat.

Elsewhere : Sind (Pakistan), Sri Lanka.

Remarks : Observed in Sanjay and Guru Ghasidas N.P.

2. Order CROCODYLIA

4. Family CROCODYLIDAE

4. *Crocodylus palustris* Lesson

1834. *Crocodylus palustris* Lesson, in Belang. *Ind. Or. Zool.*, p. 305.

Common Name : Marsh Crocodile (E); Mugger (H).

Diagnosis: Size 300-500 cm; snout short and broad; colour dark-olive in adult and the juveniles paler with black spots; muzzle is 1.5-1.75 times as long as broad at the base and tapers at the point; the dermal armour is closely set, horny sheathed, bony plates with saw-toothed fringes along the upper border of the tail; upper jaw with 19 teeth and lower 14-15 on each side.

Habitat : All aquatic habitats such as rivers, streams, pools, lakes, irrigation channels and reservoirs but preferring water courses passing through shady and dense forest.

Distribution : Excepting the states of Jammu and Kashmir, Himachal Pradesh, Punjab and NW desert region, it is distributed in scattered population throughout India. The eastern limit of distribution extends beyond Darrang district in Arunachal Pradesh; no recent record of its occurrence in Assam.

Elsewhere : Bangladesh, Iran, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Vainshadohora of Kangerghati N.P. It was reported that the crocodile inhabits the mentioned site but during the present survey no crocodile was seen.

3. Order SQUAMATA

Sub-order SAURIA

5. Family GEKKONIDAE

5. *Hemidactylus brookii* Gray

1845. *Hemidactylus brookii* Gray, *Cat. Liz. Brit. Mus.* p.153.

Common Name : Brook's Gecko (E).

Diagnosis : Size $\pm$ 6 cm; moderate gecko with light and dark brown spotted dorsum; belly dirty white; dark streak along the side of head; head large and ovate; eye large with vertical pupil; ear opening oval; upper labial 8-12 and lower 7-9; dorsum with small granular scales mixed with conical, keeled tubercles, arranged in 16-20 longitudinal rows; scales on the ventrum smooth, rounded and imbricate; digits free, moderately dilated, with 5-6 oblique lamellae under the first and 6-10 under the fourth toes. Tail longer than head and body, much depressed, verticillate, swollen at the base; its dorsal aspect covered with small scales and with a series of 6-8 long, pointed, strongly keeled tubercles; male with 6-16 preanofemoral pores on each side, generally interrupted mesially.

Habitat : Under stones, dry bark and wooden logs, rocky areas in dense forest and rarely in buildings.

Distribution : Throughout India.

Elsewhere : Pakistan, Sri Lanka, Myanmar, West Indies, Borneo, South China, Tropical Asia and northern half of Africa.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P.

6. *Hemidactylus flaviviridis* Ruppell

1835. *Hemidactylus flaviviridis* Ruppell, *Neue Wirb. Faun. Abyss*, p. 18, pl. vi, fig. 2.

Common Name : Yellow-bellied House Gecko (E).

Diagnosis : Length $\pm$ 7 cm; dorsum pale-grey or greenish-grey or brown or olive, dark wavy cross bands on the back; belly yellowish; head large, snout broad, ear opening subcircular; head covered with minute granules; upper labials 12-15 and lower 10-12; dorsum with small granular scales, intermixed with very few large, round, feebly keeled tubercles; ventrum with smooth, rounded, imbricate scales; 7-10 lamellae under the first toe and 11-14 under the fourth; tail almost equal to the head and body, strongly depressed and swollen at the base in the adults, flat beneath; male with 5-7 femoral pores on each side.

Habitat : Houses and buildings.

Distribution : Throughout India but abundant north of 20° N Lat.

Elsewhere : Arabia, Pakistan, Iran, shores of Red sea.

Remarks : It is not an inhabitant of forest but the species is included in the list as the Kangerghati FRH is situated inside the PA where it was observed.

7. *Hemidactylus triedrus* (Daudin)

1802. *Gecko triedrus* Daudin, *Hist. Nat. Rept.*, 4 : 155.

Common Name : Termite-Hill Gecko (E).

Diagnosis: Length $\pm$ 8 cm; a beautifully coloured, banded gecko with brown, pink or green tinge on dorsum and numerous scattered white tubercles all over; back with four large rich brown or olive green white edged saddle shaped cross bars or bands, prominent in the young; supra-ocular region is greenish; head with one or two yellow stripes behind the eye and a yellow streak across the nape; ventral surface light pink in young while in the adult it is white or yellow with a reddish tinge. In the very old individuals the dorsal markings become obscure with the advancement of age and the general dorsal colour becomes light pinkish brown, with yellow cross bars edged with dark brown or rows of white tubercles encircled by brown; on tail alternate dark brown and white bands persists throughout the life; head large; eye moderately large with a vertical pupil; ear opening small and ovate; upper labial 8-10 and lower 7-8 in number; dorsum with small irregular scales and very large trihedral tubercles arranged in 16-18 regular longitudinal rows; ventrum with large, smooth, rounded, subimbricate scales; 6-7 lamellae under the first toe, 7-8 under the fourth toe; tail longer than the head and body, slightly depressed; covered above with small, irregular, pointed scales and series of 4-6 large, keeled, pointed tubercles; male with 6-14 preanofemoral pores on each side.

Habitat : Arid rocky as well as sandy flats with scrub vegetation.

Distribution : India: From southern Rajasthan, Gujarat from west, east through a diagonal line up to southern Chhattisgarh and Andhra Pradesh and whole of southern India.

Elsewhere : Sri Lanka, West Pakistan.

Remarks : Kangerghati N.P.

8. *Hemidactylus gracilis* Blanford

1870. *Hemidactylus gracilis* Blanford, *J. Asiat. Soc. Beng.*, **39** : 362, pl. xxvi, figs. 4-6.

Common Name : Square Spotted Gecko (E).

Diagnosis : Standard length 22-37 mm, tail length 26-43 mm; dorsum greyish with dark brown almost square spots arranged in two longitudinal rows on either side of a thin dark vertebral line; another prominent linear marking along the side of head and body; belly white with dark brown longitudinal lines; head long and narrow, covered above with small juxtaposed scales, those on the snout largest and strongly keeled; upper labials 9-10 and lower labials 7-8; dorsum covered with small scales and 10-12 longitudinal rows of oval, strongly keeled tubercles; ventrum with large, flat rounded imbricate scales, comparatively smaller in gular region; digits free moderately dilated, 5 lamellae under first toe and 8-9 lamellae under fourth toe; tail longer than head and body; male with an angular series of 6 preanal pores.

Habitat : Rather rocky and semi-arid region.

Distribution : India : Parts of Andhra Pradesh, Chhatisgarh, Madhya Pradesh and Maharashtra.

Remarks : Observed in Guru Ghasidas National Park. Endemic.

9. *Hemidactylus frenatus* Schlegel

1836. *Hemidactylus frenatus* Schlegel, *Erp. Gen.* **3** : 366.

Common Name : Asian House Gecko (E).

Diagnosis : Length ± 7 cm; a moderately slender gecko; males having 28-36 pores in continuous series; dorsum greyish brown, sometimes with darker markings; a brown streak with a light edge on top, runs along the sides of the head; belly creamy; head large, covered above with small granular scales; upper labials 10-12 and lower 8-10 in number; mental shield large, subtriangular; usually two pairs of same sized postmental shields; digits free, moderately dilated, oblique lamellae under the first toe; 4-5 and 9-10 under the fourth toe; tail little longer than head and body and slightly depressed, covered above with small scales and series of six enlarged pointed tubercles.

Habitat : Almost all sorts of terrestrial habitat, particularly crevices of tree trunks, ruined houses, gardens etc.

Distribution : India : Peninsular India, West Bengal, Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Indo-chinese and Indo-Malayan sub-regions; islands of Indian Ocean; tropical Australia; East Africa; St. Helena.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P.

10. *Hemidactylus giganteus* Stoliczka

1871. *Hemidactylus giganteus* Stoliczka, *P. Asiat. Soc. Beng.* : p. 193.

1871. *Hemidactylus giganteus* Stoliczka, *J. Asiat. Soc. Beng.*, **41**(2) : 99, pl.2, fig. 2. (Type).

Common Name : Giant Tree Gecko (E).

Diagnosis : Standard length 110-115 mm; tail length 90-120 mm; dorsum grey; 'W' shaped undulating cross bars on back; belly whitish; head large with an obtusely pointed snout; upper labials 12-15, lower 10-12; dorsum with quite regularly arranged, uniform small granular scales, completely devoid of enlarged tubercles; belly with smooth, rounded, imbricate scales; digits free, moderately dilated and with almost straight, transverse lamellae beneath; 10-11 lamellae beneath the first toe and 13-15 under fourth toe; tail strongly depressed and swollen at the base; male with 18-22 femoral pores, separated by small median gap. Endemic.

Habitat : Arboreal.

Distribution : India: Chhattisgarh, Andhra Pradesh, Kerala, Maharashtra, Tamil Nadu.

Remarks : The species is strongly arboreal in habit but it was observed on the walls of FRH of Kangerghati N.P.

11. *Hemidactylus leschenaulti* Dum. & Bibr.

1836. *Hemidactylus leschenaulti* Dum. & Bibr., *Erp. Gen.*, **3** : 364.

Common Name : Common Bark Gecko (E).

Diagnosis : Length $\pm$ 7 cm; colour ashy-grey with undulating cross-bars or rhomboidal spots on the back; a black strip from behind the eye extending up to flanks; belly whitish; head large with a broad snout covered with small granular scales and larger near the snout; upper labials 10-12 and lower labials 8-10; dorsum with small granular scales intermixed with few larger, rounded, feebly keeled tubercles; belly with smooth, rounded, subimbricate scales; 6-7 lamellae under the first toe and 9-11 under the fourth toe; tail almost equal to the head and body and strongly depressed, swollen at the base; male with 10-17 femoral pores on each side separated by distinct intervals.

Habitat : Under barks and crevices of large trees.

Distribution : India : Rajasthan, West Bengal and Peninsular India.

Elsewhere : Sri Lanka, Pakistan.

Remarks : Observed in Sanjay N.P.

12. *Hemidactylus maculatus* Dum. & Bibr.

1836. *Hemidactylus maculatus* Dum. & Bibr., *Erp. Gen.*, 3 : 358.

Common Name : Dark Spotted Giant Gecko (E).

Diagnosis : Length $\pm$ 11 cm; dorsum brown with dark-brown spots and undulating transverse bars and streaks; belly dirty white; head large, with a bulging on the tip of snout; pupil vertical; upper labials 10-12 and lower 9-10; dorsum with small juxtaposed scales and large trihedral tubercles, arranged in 18-20 regular longitudinal rows; belly with smooth, rounded, imbricate scales; transverse lamellae under toes, completely straight and smooth, 9-10 under the first toe and 10-13 under fourth toe; tail longer than head and body; upper surface of tail with 6-8 large trihedral tubercles; 19-25 femoral pores on each side in male.

Habitat : Inhabits caves and crevices in the rocks.

Distribution : India : Gujarat, Kerala, Maharashtra, Tamil Nadu and Chhatishgarh.

Remarks : Observed in Kangerghati N.P. Endemic.

13. *Hemidactylus reticulatus* Beddome

1870. *Hemidactylus reticulatus* Beddome *Madras Month. J. Med. Sci.*, 1 : 33.

Common Name : Reticulated Gecko (E).

Diagnosis : Length $\pm$ 4 cm; colour brown with a network of brownish-blue on the dorsum and many white dorsal tubercles; brown markings on throat; belly whitish; head small and bulged, snout rounded; upper labials 9-10 and lower 7-8; dorsum with small keeled scales, intermixed with larger, sharply pointed keeled tubercles; belly with smooth, rounded imbricate scales; 4-6 lamellae under the first and 8-10 lamellae under the fourth toe; tail slightly longer than head and body; covered above with small, pointed scales and a series of 6-8 long, pointed, imbricate scales; male with an angular series of 6-12 preanal pores.

Habitat : Crevices of rocks or under stones.

Distribution : India : Andhra Pradesh, Madhya Pradesh, Chhatishgarh, Tamil Nadu, Karnataka, Kerala.

Remarks : Observed in Sanjay and Guru Ghasi Das N.P. Endemic.

14. *Hemidactylus subtriadrus* Jerdon

1853. *Hemidactylus subtriadrus* Jerdon, *J. Asiat. Soc. Beng.*, **22** : 467.

Common Name : Madras Blotched Gecko (E).

Diagnosis : Colour light brown with dark-brown saddle shaped bands on the dorsum; bands are bordered with white and four in number between the head and the hind-limbs; other characters mostly similar with *Hemidactylus triadrus*, but differing in having 10-12 upper and 10 lower labials; 8 lamellae under the first toe and 12 under the fourth.

Habitat : Rock dweller.

Distribution : India : Andhra Pradesh, Tamil Nadu, Chhattisgarh.

Status : Endangered.

Remarks : Observed in Kangerghati N.P. Endemic.

15. *Geckoella nebulosus* (Beddome)

1870. *Gymnodactylus nebulosus* Beddome, *Madras Month. J. Med. Sc.*, **ii** : 174.

Common Name : Clouded Ground Gecko (E).

Diagnosis : Length $\pm$ 5 cm; body stout, cylindrical, covered with enlarged tubercles, head moderately large, scales on belly overlapping, tail short, swollen at base and tapering; males lack of preanal and femoral pores or enlarged scales on preanal or thigh regions; dorsum light brown or greyish brown, with a pair of dark brown, rounded, sinuous spots, that continue to the tail; tail shorter than head and body; belly unpatterned, light brown.

Habitat : Broken hills, rocky and stony areas.

Distribution : India: Broken hills of the east coast and the central plateau, Chhattisgarh, Orissa, Andhra Pradesh.

Remarks : Observed in Kangerghati N.P. Endemic.

6. Family AGAMIDAE**16. *Calotes versicolor* (Daudin)**

1802. *Agama versicolor* Daudin, *Hist. Nat. Rept.* **3**: 395, pl. 44.

Common Name : Indian Garden Lizard (E).

Diagnosis : Length $\pm$ 45 cm; colour light greyish-brown; transverse spots on back and sides; dark streak from eyes; head large, swollen at angle of jaws in males; no gular

pouch; eyes large; two separate spines above the tympanum; males with gular sac, long limbs with long slender digits with strong claws; tail round and slender; head scales irregular, juxtaposed; body scales keeled, imbricate with pointed tips; scales in 35-52 rows at mid body pointing backwards and upwards; dorsal crest prominent in male.

Habitat : Common on shrubs and trees, vicinity of stream, riversides, gardens, desert oases.

Distribution : Throughout India.

Elsewhere : Sumatra to South China, Sri Lanka, Pakistan, Afghanistan.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

17. *Psammophilus blanfordanus* (Stoliczka)

1871. *Charasia blanfordi* Stoliczka, *P. Asiat. Soc. Beng.* : p. 194.

Common Name : Common Indian Rock Lizard (E).

Diagnosis : Length $\pm$ 30 cm; dorsal colouration olive-bronze or dark-brown, spotted profusely with brown and usually with a series of large, boat shaped dark-brown spots with light brown or pale centres on the complete back and tail; body compressed, dorsal scales uniform, comparatively larger, keeled and imbricate, pointing backwards and upwards; 80-100 scales round the middle of the body; tail long, slender, slightly compressed; head scales unequal, smooth, sometimes obtusely keeled; ventral scales smooth in adult.

Habitat : Rock dweller.

Distribution : India: Andhra Pradesh, Chhatisgarh, Jharkhand, Orissa, Madhya Pradesh, Eastern Ghats and Western Ghats.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P. Endemic.

18. *Sitana ponticeriana* Cuvier

1844. *Sitana ponticeriana* Cuvier, *Regne Anim.* 2nd ex. 2 : 43.

Common Name : Indian Fan-throated Lizard (E).

Diagnosis : Length $\pm$ 6 cm; colour brown with a series of dark-brown, black-margined, rhomboidal, vertebral spots on the back; the throat fan in male is brilliantly coloured with red, blue and black; belly whitish; head scales unequal, strongly keeled, dorsal scales large and strongly keeled; lateral scales small, uniform, upper ones pointing upwards and backwards; limbs long; only four toes present, fourth toe longest; tail extremely longer than head and body; male with a low nuchal crest and a very large folding gular appendage, extends backwards to about the middle of the belly.

Habitat : Moderately moist scrub, sandy, rocky areas with plenty of bushy vegetation. Not found in desert and rain forest.

Distribution : Almost throughout India, except NE and NW region.

Elsewhere : Sri Lanka.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

Family SCINCIDAE

19. *Mabuya carinata* (Schneider)

1801. *Scincus carinatus* (in part) Schneider, *Hist. Amphib.* 2 : 183.

Common Name : Common Indian Skink (E).

Diagnosis : Length $\pm$ 29 cm; colour glossy bronze or olivaceous brown; lateral aspects dark-brown or slightly lighter in colour; usually with brown spots; two lighter dorsolateral lines present; under parts yellowish white; head with shield; supranasal just touching or separated from one another; frontonasal broader than long; prefrontals in contact with one another; a pair of nuchals always present; temporal scales keeled; dorsal and lateral scales almost equal, 3-5 prominent keels; 30-34 scales round the middle of the body; digits moderately long with 14-18 smooth or obtusely keeled lamellae beneath the fourth toe; hind limb reaches to the wrist or to the elbow; lower eye lids scaly.

Habitat : Inhabits rain-forest, desert, scrub forest, gardens *etc.*

Distribution : India excepting NW and NE region.

Elsewhere : Nepal, Sri Lanka.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

20. *Mabuya macularia* (Blyth)

1853. *Euprepes macularius* Blyth, *J. Asiat. Soc. Beng.*, 22 : 652.

Common Name : Bronz Grass Skink (E).

Diagnosis : SL 6-7.5 cm, TL 11-14cm, colour brown, olive or bronzy, with or without longitudinally arranged black spots; light dorsolateral stripe; sides of neck and flanks dark-brown, generally spotted with white; prefrontals rarely touch each other; lower eyelid scaly; temporal scales keeled; dorsal and lateral scales almost equal, with 5-9 keels, 28-34 scales round the middle of the body; digits moderately long, with 12-17 obtusely keeled lamellae beneath the fourth toe.

Habitat : Forest areas, nursery garden, heap of stones and leaves.

Distribution : India except Jammu and Kashmir and part of Himachal Pradesh.

Elsewhere : Malayasia, Myanmar, Pakistan, Thailand, Vietnam.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

21. *Mabuya dissimilis* (Hallowell)

1857. *Euprepis dissimilis* Hallowell, *Trans. Amer. Phil. Soc.*, (2)11 : 78.

Common Name : Striped Grass Skink (E)

Diagnosis : SL 7.7-9.2 cm, TL 14.9-17.8 cm; colour light brown, generally with three prominent greenish-white stripes on the back, one vertebral and two dorsolateral sometimes with black margin or spots; sides with black and white spots; belly yellowish white; eyelids with four yellow rims; supranasals in contact with one another, lower eyelids with an undivided transparent disc; temporal scales keeled; dorsal and lateral scales equal; dorsals with 2-3 strong keels; ventrals with 3 strong keels; 34-38 scales round the middle of the body; digits short, fourth toe with 12-16 smooth lamellae beneath.

Habitat : Sandy and rocky area covered with bushes.

Distribution : India : West Bengal, Jharkhand, Madhya Pradesh, Chhatishgarh, Rajasthan.

Elsewhere : Pakistan.

Remarks : Observed in Kangerghati N.P.

22. *Lygosoma albopunctata* (Gray)

1845. *Riopa albopunctata* Gray, *Ann. Mag. Nat. Hist.* 18 : 430.

Common Name : Brown Dwarf Skink (E).

Diagnosis : SL $\pm$ 6 cm; colour reddish brown; each dorsal scale with a prominent black or dark-brown spot, thus forming longitudinal lines; sides of neck and anterior portion of body dark-brown or black, densely spotted with white; belly yellowish white; 2-3 central scales of lower eyelid larger than others; nuchals indistinct; body scales smooth, almost equal; 26-28 scales round the middle of the body; 63-72 scale rows down the middle of the back; limbs moderately large; digits short; 12-15 lamellae under the fourth toe; tail swollen at the base.

Habitat : Relatively common in the hill although found in plains.

Distribution : India: Andhra Pradesh, Chhatishgarh, Assam, Madhya Pradesh, West Bengal, Bihar, Uttar Pradesh, Kerala.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P. Endemic.

23. *Lygosoma punctata* (Gmelin)

1799. *Scincus punctatus* Gmelin, *Hist. Amphib.*, : 197 (based on Seba's fig. 2, pl. 12, fig. 6).

Common Name : Dotted Garden Skink (E).

Diagnosis : SL $\pm$ 8.6 cm, TL $\pm$ 9.2 cm; dorsum brown, each scale with a dark basal spot forming a longitudinal row; a yellow dorsolateral stripe from the snout; belly yellowish white, each scale dotted with black; tail red in young; snout obtusely pointed; lower eyelid with an undivided semitransparent disc; supranasals in contact with one another behind the rostral; a pair of nuchal; upper labials 7, the fifth below the middle of the eye, longer than the other labials; body scales smooth, almost equal, 24-28 scales round the body; 62-76 down the middle of the back; 11-14 keeled lamellae under the fourth toe; tail swollen at the base, slightly longer than head and body.

Habitat : Semifossorial, ground dweller, occasionally lives in leaf litter.

Distribution : India : Almost whole of India except NE and NW region.

Elsewhere : Bangladesh, Pakistan, Sri Lanka, Man-son mountains, Tonking.

Remarks : Observed in Sanjay, Guru Ghasidas N.P.

8. Family CHAMAELEONIDAE

24. *Chamaeleo zeylanicus* Laurenti

1768. *Chamaeleo zeylanicus* Laurenti *Syn. Rept.*,: 46.

Common Name : Indian Chamaeleon (E).

Diagnosis : SL $\pm$ 17.5 cm; TL $\pm$ 20 cm; colour green, anterodorsal crest most prominent, skull strongly ossified; eyes very large with a transverse slit like pupil opening, otherwise the whole eye covered by a lid, eyes have the power of independent movement and they can revolve in all directions like a search light; tongue cylindrical and extremely extensive, and made up of extremely elastic tissue and anterior end club shaped; remarkable power of changing its colour; hands and feet modified for grasping, claws simple, scales on the soles smooth; tail prehensile, at least as long as head and body; body covered with uniform, flat, granular tubercles, dorsal crest low, serrated; male with a spur like tarsal process. Head with a distinct helmet like bony projection; orbit of eye large.

Habitat : Shrubs and trees of arid and semi arid region.

Distribution : India : Western and Peninsular India.

Elsewhere : Eastern Pakistan and northern Sri Lanka.

Remarks : Observed in Guru Ghasidas N.P.

9. Family VARANIDAE

25. *Varanus bengalensis* (Linnaeus)

1758. *Lacerta monitor* Linnaeus, *Syst. Nat. ed.*, 10 : 201.

Common Name : Indian Monitor (E).

Diagnosis : Length $\pm$ 1.74 m; colour dark brown; young possesses pale ring spots and blackish cross-bars which sometimes persist in the adult; tail very strong, long and compressed and measures about a meter ; the scales on the crown larger than those on the neck region; snout convex terminally; nostril, an oblique slit lying midway between the eye and the end of the muzzle; abdominal scales smooth in 90-110 transverse rows; teeth acute, sharp and recurved; tongue very long, forked and protrusible.

Habitat : Forest, desert, river bank, marsh land, tidal creek, sea coast, rocky areas.

Distribution : Throughout India.

Elsewhere : Afghanistan, Pakistan, Nepal, Bangladesh, Myanmar.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P.

10. Family LACERTIDAE

26. *Ophisops leschenaulti* (Milne-Edwards)

1829. *Lacerta leschenaultii* Milne-Edwards, *Ann. Sci. Nat. Paris*, 16 : 80, 86, pl. 6, fig. 9.

Common Name : Leschenault's Lacerta (E).

Diagnosis : SL $\pm$ 5 cm, TL 10 cm; dorsum brownish with golden tinge; a light brown stripe margined above with deep black spots starts from the supraciliary margin and gradually passes along the lateral aspects of body and tail; a second stripe borders the upper lip and passes along the flanks, the space between these two stripes generally black or in many individuals green spotted on a black background; belly greenish-white; tail and hind limbs generally red; upper head shields strongly keeled and extensively striated, smooth; occipital present; the nostrils present in between two large swollen nasals; frontonasal one (broader than long); prefrontals in contact with one another; frontal long and narrow; anterior loreal, distinctly smaller than posterior; an antehumeral fold present; ventral scales large displayed in 6 longitudinal and 24-28 transverse series; 42-50 scales round the middle of the body; large preanal plate present; femoral pores 12-16 on each side.

Habitat : Scrub forest and open jungle.

Distribution : Peninsular India.

Elsewhere : Sri Lanka.

Remarks : Observed in Kangerghati N.P.

27. *Ophisops jerdoni* Blyth

1853. *Ophisops jerdoni* Blyth, *J. Asiat. Soc. Beng.*, **22** : 653.

Common Name : Snake-eyed Lacerta (E).

Diagnosis : SL $\pm$ 4.5 cm, TL $\pm$ 9 cm; dorsum olive-brown, golden or greyish-golden with a golden tinge and with two golden lateral stripes; gap between two lateral stripes densely spotted with black; underparts yellowish white; upper head shield strongly keeled and striated; dorsal scales almost equal, rhomboidal; ventral plates in 6 longitudinal and 23-29 transverse series, 28-35 scales round the middle of the body; a large preanal plate present; 6-12 femoral pores available on each side; occipital not present.

Habitat : Available in various habitat but usually soft soil burrower.

Distribution : India : Andhra Pradesh, Chhattisgarh Gujarat, Maharashtra, Madhya Pradesh, Rajasthan, Tamil Nadu.

Elsewhere : Pakistan.

Remarks : Observed in Sanjay, Guru Ghasidas N.P.

Sub-order SERPENTES**11. Family TYPHLOPIDAE****28. *Ramphotyphlops braminus* (Daudin)**

1803. *Eryx braminus* Daudin, *Hist. Nat. Rept.*, vii, p. 279 (based on Russell).

Common Name : Common Blind Snake (E).

Diagnosis : Length 12.5-23 cm; width of head and body almost equal, snout rounded; tiny scale-covered eye visible as black dot; short, blunt tail ends in a tiny spine; glossy body, almost uniform reddish-brown or blackish-brown above; lighter below; tongue tiny; only toothed maxilla; scales in 20 rows around the body, smooth; 290-320 transverse rows of scales; belly scales not broader than adjacent body scales.

Habitat : Lives underground in damp earth.

Distribution : Whole of South Asia but introduced worldwide.

Remarks : Observed in Kangerghati N.P.

11. Family BOIDAE**29. *Python molurus* (Linnaeus)**

1758. *Coluber molurus* Linnaeus, *Syst. Nat.*, 10th ed. p. 225.

Common Name : Indian Python or Rock Python (E).

Diagnosis : Length 300-762 cm; thick bodied smooth-scaled; head broader than neck; pupil vertical; yellowish to brown with asymmetrical dark brown, black-edged blotches; tip of arrow head mark on head, indistinct in adults; two dark streaks on side of head – one below, the other through or behind eye; underside white or yellowish; rostral with a pit; smooth scales in 60-75 rows; ventrals 253-270, distinctly narrower than width of belly; anal undivided; subcaudals 58-73, paired; rostral and first two supralabials pitted; supralabials 11-13 (6th or 7th touching eye).

Habitat : Rainforest, grassland, deciduous forest, arid scrub jungle as well as mangrove forest.

Distribution : Almost throughout India except the islands, up to 2000 m above sea level.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

30. *Gongylophis conicus* (Schneider)

1801. *Boa conica* Schneider, *Hist. Amphib.* ii, p. 268.

Common Name : Common Sand Boa (E).

Diagnosis : Length 50-100 cm; short and thick bodied; scales of head and tail strongly keeled; eyes small, pupil vertical; tail very short; colour variable, reddish brown, yellowish-white, dark brown or black with large irregular usually dark brown, black-edged blotches connected on the back; underside yellowish-white; scales in 40-55 rows, strongly keeled on head and tail (sometimes tuberculated); ventrals 162-196, distinctly narrower than width of belly; anal tripartite (a larger median scale with a smaller scale on each side); subcaudals 16-24, entire; supralabials 12-14; small scales on the top of head (except nasal and internasals); scales between eyes (across forehead) 8-10; scales around eye 10-15; mental groove absent.

Habitat : Dry and sandy soil.

Distribution : Throughout India except NE region, Kashmir and Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Nepal, Pakistan, Sri Lanka (Not common).

Remarks : Observed in Sanjay, Guru Ghasidas N.P.

31. *Eryx johnii* (Russell)

1801. *Boa johnii* Russell, *Ind. Serp.*, ii, pp. 18 & 20, pls. xvi & xvii.

Common Name : Red Sand Boa (E)

Diagnosis : Length 75-100 cm; thick bodied; a shovel-shaped scale at the tip of the snout; eye small but distinct; pupil vertical; blunt tail with rounded tip resembles the head; colour reddish-brown, dark-brown, speckled grey, yellow or black, sometimes with a black banded tail; belly white, spotted with brown or entirely brown; scales in 53-67 rows, weakly keeled; ventrals 190-210, distinctly narrower than width of belly; anal tripartite; subcaudals 20-34; supralabials 10-12; scales between eyes 6-9; scales around eye 10-11; mental groove present.

Habitat : Prefers dry places and sandy soil.

Distribution : Throughout India except NE, Kashmir, Andaman and Nicobar Is.

Elsewhere : Nepal and Pakistan.

Remarks : Observed in Sanjay N.P.

13. Family COLUBRIDAE

32. *Amphiesma stolata* (Linnaeus)

1758. *Coluber stolatus* Linnaeus, *Syst. Nat.*, 10th ed. p. 219.

Common Name : Stripped Keelback (E)

Diagnosis : Length 40-80 cm; slender bodied with keeled scales; brown back with two distinct ribbon-like yellowish stripes from neck to tip of tail; forebody with additional black or dark-brown cross-bars or spots that fade towards the tail; head light-brown or olive above; underparts white; scales in 19 (17 or 20) : 19: 17 rows, keeled with more or less bidentate tips; ventrals 118-161; anal usually divided; subcaudals 46-89, paired; internasal truncate, but distinctly narrowed anteriorly; supralabials 8 (3rd to 5th touching eye).

Habitat : Frequents in paddy fields, ponds, thick grass, bushes and gardens.

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Remarks : Observed in Kangerghati N.P.

33. *Xenochrophis piscator* (Schneider)

1799. *Hydrus piscator* Schneider, *Hist. Amph.*, i, p. 247

Common Name : Checkered Keelback (E).

Diagnosis : Length 60-175 cm; scales keeled; head broader than neck; rounded pupil; two bold black streaks, one below and the other from eye to angle of mouth; glossy olive

green, olive brown, yellow, brown, grey or black, usually with a checkered body pattern; underside glossy white or yellowish-white; scales in 19 rows at mid body, keeled; ventrals 122-158; anal usually divided; subcaudals 70-97, paired; internasals distinctly narrowed anteriorly; supralabials 9 (4th and 5th touching eye, 6th excluded by lowest postocular);

Habitat : In and around fresh water bodies and paddy fields.

Distribution : Almost throughout the mainland of India.

Elsewhere : East upto Borneo and west to Indus and mainland Asia.

Remarks : Observed in Guru Ghasidas and Kangerghati N.P.

34. *Ptyas mucosa* (Linnaeus)

1758. *Coluber mucosus* Linnaeus, *Mus. Ad. Frid., I*, p. 37, pl. 23, and *Syst. Nat.*, Ed. 10. p. 226.

Common Name : Indian Rat Snake (E).

Diagnosis : Length 200-350 cm; head broader than neck; large eye with rounded pupil; colour variable, pale yellow, olive, brown, grey or black; body lightly or strongly marked with black; markings usually distinct on tail; lip scales usually separated by vertical black lines; underside usually with prominent dark cross-bars; scales in 17,18 or 19 : 17 or 16 : 14 rows, smooth or upper rows more or less keeled; ventrals 190-213; anal scale divided; subcaudals 100-146, paired.

Habitat : Inhabits a wide range of habitats - coastal, arid, wet mountain, open plain fields as well as forests.

Distribution : Throughout South and SE Asia, from sea level to 4000 m.

Remarks : Observed in Sanjay and Kangerghati N.P.

35. *Lycodon aulicus* (Linnaeus)

1754. *Coluber aulicus* Linnaeus, *Mus. Adolph. Frider.*, i, p. 29, pl.xii, fig. 2.

Common Name : Common Wolf Snake.

Diagnosis : Length 30-80 cm; slender bodied; smooth scaled; flattened head slightly broader than neck; snout broad, projects beyond lower jaw; eye entirely black; glossy grey, brown or black above, usually with 10-20 narrow white or yellowish white bands that fork on sides of body; underside white; scales in 17:17:15 rows, smooth; ventrals 172-214, strongly angulate laterally; anal divided; subcaudals 57-80, paired; loreal 1; supralabials 9 (3rd to 5th touching eye).

Habitat : Natural hides are caves, wells, stone piles, hollow trees, old buildings etc.

Distribution : Throughout India except Andaman and Nicobar Islands.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

36. *Argyrogena fasciolatus* (Shaw)

1802. *Coluber fasciolatus* Shaw, *Gen. Zool.*, iii, p. 528.

Common Name : Banded Racer (E).

Diagnosis : Length 75-135 cm; scales smooth; light or dark brown; snout tapered; young with brilliant white head markings and bright white cross bands; adults usually without bands; belly white or yellowish white; scales in 23 or 21: 23 or 21: 17 or 15 rows, smooth; ventrals 191-232; obtusely angulate laterally; anal divided; subcaudals 77-92, paired; usually a presubocular; temporals 2+3 or 3+3; supralabials 8 or rarely 9 (4th and 5th touching eye).

Habitat : In rocks and dense bushes.

Distribution : Peninsular India, extending in the north-west as far as a line drawn from Baroda through Gwalior to the Himalayas south of Nepal; East to western West Bengal;

Elsewhere : Bangladesh, Northern Sri Lanka, Pakistan.

Remarks : Observed in Kangerghati N.P.

37. *Ahaetulla nasuta* (Lacépède,)

1789. *Coluber nasutus* Lacépède, *Hist. Nat. Serp.*, i, p. 100 and ii, p. 277, pl. 4, fig. 2.

Common Name : Common Vine Snake (E).

Diagnosis : Length 100-200 cm; long, slender, smooth-scaled; extremely pointed head with extended snout; large eye with horizontal pupil; no loreal; tail long; uniform parrot green (rarely yellow, brown or pink) back, often with a thin white or yellow line separating upper body scales from belly scales; underside usually light green or yellow; snout tip tapering to a point; when viewed from above, it usually consists of a single scale which is grooved in the middle; rarely a few tiny scales at base of the scale; scales in 15:15:13 oblique rows, smooth; ventrals 166-207; anal divided; subcaudals - Male 156-180; ± 135-152; 3rd and 4th supralabials divided to form pre-subocular.

Habitat : Usually on low bushes or trees.

Distribution : India except NW, NE (uncertain) and most of the gangetic basin.

Elsewhere : Bangladesh, Nepal, Sri Lanka.

Remarks : Observed in Kangerghati N.P.

38. *Boiga trigonata* (Schneider)

1802. *Coluber trigonatus* Schneider, in *Bechst. Transl. Lacép.*, iv, p. 256, pl. xl, fig.1.

Common Name : Common Cat-Snake (E).

Diagnosis : Length 65-125 cm; body long, thin and laterally flattened; scales smooth; head distinctly broader than neck; eye large with vertical pupil; tail very long; light brown or tan with darker zigzag markings; a distinct pale 'Y' shaped mark, sometimes black edged on the top of the head; scales on top of head large, smooth and of different shapes; underside white or tan, sometimes with small black spots on outer edges of each belly scale; scales in 21:21:15 oblique rows, smooth; vertebrae larger than the adjacent scales; ventrals 206-256; anal entire; subcaudals 75-96, paired.

Habitat : Tree top, roof top, bushes, under bark and stone etc.

Distribution : Throughout India except Andaman and Nicobar Islands.

Elsewhere : From Pakistan west to Transcaspia.

Remarks : Observed in Sanjay, Guru Ghasidas N.P.

39. *Coelognathus helena* (Daudin)

1803. *Coluber helena* Daudin, *Hist. Nat. Rept.*, vi, p. 277.

Common Name : Common Trinket Snake (E)

Diagnosis : Length 70-168cm; slender bodied; scales of hind body and tail sometimes keeled; mostly tan or olive, or chocolate brown with two black stripes on neck and light bands and on checks or fore body; hind body with two prominent dark brown or black stripes, continue up to tail; belly pearl white; mid body scales smooth, in 23 to 27 rows; ventrals 210-244, angulate laterally; anal scale entire; subcaudals 73-100, paired; supralabials 8-11 (5th and 6th/ 6th and 7th touching eye).

Habitat : In termite mounds, rock piles and crevices.

Distribution : Throughout India up to Poonch of Kashmir in north and Manipur and Naga hills to north east.

Elsewhere : Bangladesh, Nepal, Sri Lanka.

Remarks : Observed in Guru Ghasidas N.P.

40. *Coelognathus radiatus* (Schlegel)

1837. *Coluber radiatus* Schlegel, *Phys. Serp.*, ii, p. 135, pl. v, figs. 5 & 6.

Common Name : Copper headed Trinket Snake (E).

Diagnosis : Length 150-180 cm (maximum recorded 230cm); greyish brown, fawn, or yellowish-brown back with four black stripes on the fore body; upper stripes broad, outer pair usually broken into elongated spots; head copper brown with black line across nape and three black streaks radiate from below and behind eye; underparts uniform yellow or grey; scales in 19:19:17 rows, weakly keeled on back in adults; ventrals 207-250 with strong lateral keel; anal entire; subcaudals 80-108, paired; supralabials 9 (4th to 6th or 3rd to 5th touching eye).

Habitat : Found in open areas at the edge of forest or close to forest.

Distribution : Uttaranchal to Arunachal Pradesh along the Himalayas, part of Madhya Pradesh, Chhatisgarh, Orissa and Sikkim.

Elsewhere : Bangladesh, Nepal and throughout most of Southeast Asia up to 1480 m altitude.

Remarks : Observed in Kangerghati N.P.

N.B. Though its status determined by CAMP and Chandra and Gajbe (2005) as LR-lc but as its distribution in India is very much fragmented, thus status may be reassessed and here it is recommended as LR-nt.

14. Family: ELAPHIDAE

41. *Bungarus fasciatus* (Schneider)

1801. *Pseudoboa fasciata* Schneider, *Hist. Amph.*, ii, p.283.

Common Name : Banded Krait (E).

Diagnosis : Length 150-225 cm; scales smooth; head slightly broader than neck; eye entirely black; tail short, blunt, rounded at the tip; body and tail triangular in cross section; vertebral ridge prominent; equally spaced, wide yellow or pale brown or with white and black bands; upper most scale row on back six-sided and much larger than adjacent scales; scales under tail entire and resemble belly scales; scales in 15:15:15 rows, ventrals 200-236; anal entire; subcaudals 23-39, entire; loreal absent; supralabials 7 (3rd and 4th touching eye).

Habitat : Both plain and lower hill country; in termite mound, rodent burrows near water.

Distribution : India : Northern Andhra Pradesh, Assam upwards to Arunachal Pradesh, Bihar, Chhattisgarh, parts of Madhya Pradesh, Gadchiroli district of Maharashtra, Orissa, Uttar Pradesh and West Bengal.

Elsewhere : Bangladesh, Bhutan, China, Malayasia, Myanmar, Nepal and Thailand.

Remarks : Observed in Kangerghati N.P.

42. *Bungarus caeruleus* (Schneider)

1801. *Pseudoboa caerulea* Schneider, *Hist. Amphib.*, ii, p. 284.

Common Name : Common Krait (E).

Diagnosis : Length 100-175 cm; smooth scaled; head slightly broader than neck; eye entirely black; glossy black, pale bluish-grey or dark brownish-black above; white cross-bars, continue to pointed tip of short tail; these lines usually absent on forebody or replaced by white vertebral spots; uppermost scale row on back six-sided; broader than long, much larger than adjacent scales; underside glossy white or yellowish; scales under tail entire, resemble belly scales; scales in 15:15:15 rows, ventrals 200-217; anal undivided, subcaudals 33-52, entire; loreal absent; supralabials 7.

Habitat : Termite mound, rodent burrow, farms, gardens, forest edge, stone piles etc.

Distribution : Most of India, probably absent in the northeast above Assam and part of Himachal Pradesh and Jammu and Kashmir.

Elsewhere : Bangladesh, Nepal, Pakistan and Sri Lanka.

Status : LR-nt.

Remarks : Observed in Sanjay and Guru Ghasidas N.P.

43. *Naja naja* (Linnaeus)

1758. *Coluber naja*, Linnaeus, *Syst. Nat.*, 10th ed. p. 221.

Common Name : Indian Cobra (E).

Diagnosis : Length 100-220 cm; scales smooth, glossy; head broad; colour pattern and hood mark variable in considering to different sub-species, some bare markings, other monocellate or binocellate markings; a black spot on either side of the lower surface of the hood and one or two black cross-bars on the belly just below the hood; nostril large, vertically elliptic, poison fangs in both side followed by with or without a small teeth; a single cuneate scale on each side; frontal clearly longer than broad; scales smooth. *Male*: scales in 23-37 rows; ventrals 171-197; subcaudals 53-67, paired; *Female* : scales in 23-37 rows; ventrals 178-196; subcaudals 50-65, paired.

Habitat : Almost in all habitats of its distributional range.

Distribution : Throughout mainland India excluding northeastern region.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka.

Remarks : Found in Sanjay, Guru Ghasidas and Kangerghati N.P.

44. *Daboia russelli* (Shaw)

1797. *Coluber russelli* Shaw, *Nat. Misc.* viii, pl.291.

Common Name : Russell's Viper (E).

Diagnosis : Length 100-180 cm; body stout; scales strongly keeled; triangular head broader than neck; scales on upper surface of head small, strongly keeled; nostril very large; tail short, thin; brown or yellowish-brown, with three longitudinal rows of prominent, large brown or black oval or round spots; tip of head usually has narrow white A shaped mark and a pair of triangular/oval dark brown markings; two dark triangular streaks behind and below eye; under side white, speckled with crescent marks; scales in 25-29 : 27-33: 21-23 rows; ventrals 153-180; subcaudals 41-64, paired; *canthus rostralis* distinct; nostril very large; supranasal crescentic; supralabials, separated from eye by three rows of scales.

Habitat : Open grassy areas, scrub jungle, forest edges, rocky hillocks, mangroves *etc.*

Distribution : Throughout India.

Elsewhere : Bangladesh, Bhutan, Nepal, Pakistan, Sri Lanka and parts of SE Asia.

Remarks : Observed in Sanjay, Guru Ghasidas and Kangerghati N.P.

45. *Echis carinatus* (Schneider)

1801. *Pseudoboa carinata* Schneider, *Hist. Amphib.*, ii. p. 285.

Common Name : Saw-scaled Viper (E).

Diagnosis : Length 30-50 cm (maximum 80 cm); body short, stout; scales strongly keeled, rough in appearance; head distinctly broader than neck; scales on upper surface of head small, strongly keeled; tail very short, thin; colour dark brown, brick-red, grey or sand coloured with zigzag patterns on back; top of head has usually distinct, arrow-head mark; underside white speckled with brown or several other colour forms exists; scales on 25-29 : 27-37: 21-27 rows; 4-7 lowest body scale rows (adjacent to ventrals) oblique, with serrated keels; ventrals 132-185; entire; anal entire or divided; subcaudals 23-39, entire; supralabials 10-12, 4th usually largest.

Habitat : Open dry, sandy or rocky terrain.

Distribution : Throughout mainland India except West Bengal and northeastern region.

Elsewhere : Pakistan and Sri Lanka.

Remarks : Observed in Sanjay N.P.

46. *Trimeresurus gramineus* (Shaw)

1802. *Coluber gramineus* Shaw, *Gen. Zool.*, iii, p. 420.

Common Name : Bamboo Pit Viper (E).

Diagnosis : Length $\pm$ 63 cm, tail 11.5 cm (Male); 80 cm, tail 13.5 cm (Female); head very distinct from neck; nostril small, in the nasal; upper surface of head covered with scales or small shields; a deep pit in the side of the face between the preoculars and the loreal; scales 17-31 rows; ventrals rounded; tail moderate or short; subcaudals paired or rarely some or all of them single; supraoculars narrow; entire, 8-11 scales on a line between them; dorsal scales smooth or nearly so; head greenish, uniform or spotted with brown; hemipenis spinose; internasals 1.5-3 times as large as the adjacent scales, separated from one another by one or two small scales; 10-12 supralabials, 1st completely separated from the nasal, 3rd largest; scales in 21:21: 15 rows; tail short and prehensile; green or yellowish green above, uniform or with occasional small dark brown spots, whitish or greenish below; upper lip whitish.

Habitat : Inhabits forest areas including bamboo groves.

Distribution : Peninsular India, south of lat. 22°

Remarks : One specimen collected from Sonhat Range of Guru Ghasidas N.P. This species is not very uncommon there. This is a new record of the species above 22° N latitude. Endemic.

SUMMARY

This work recorded 46 reptilian species under 31 genera, 14 families and 3 orders from Kangerghati, Guru Ghasidas and Sanjay National Park. Out of 46 species 9 species are endemic.

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AMPHIBIA

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INTRODUCTION

The amphibian fauna of the newly formed State Chhattisgarh and even the erstwhile Madhya Pradesh is poorly known. Apart from stray records of a few species in scientific literature (Daniel & Selukar, 1963; Daniel & Verma, 1963; Bharos, 1986; Pillai *et al.*, 1992; Chanda, 1995, 1995a; Deuti, 1997; Chandra & Gajbe, 2005), the only compilation of the amphibians of Bastar district, Madhya Pradesh (now in Chattisgarh) is by Sanyal *et al.* (1991) who listed 7 species from the area. Altogether the Kangerghati, Guru Ghasidas and Sanjay National Parks have atleast 14 species of amphibians (3 of family Bufonidae, 5 of family Microhylidae, 5 of Ranidae and 1 of Rhacophoridae).

The family Bufonidae includes the toads characterized by their rough warty skin and parotoid glands. Members of this family are exclusively terrestrial. The family Microhylidae are burrowing frogs with well-developed metatarsal tubercles on the hind limb for digging. They live mostly underground, emerging during the monsoon to feed and breed. The family Ranidae are semi-aquatic and aquatic, sometimes seen on the forest floor among leaf-litter. They have smooth skin and partly or fully webbed feet. The family Rhacophoridae includes tree-frogs with enlarged discs on fingers and toes for clinging onto branches and leaves of trees. Some of them like *Polypedates* make foam-nests in which their eggs hatch and the tadpoles fall into water below where they develop and metamorphose.

The nomenclature followed in this account is after Frost, 2007.

List of Species with availability and Status

Sl. No.	Species Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
	Order ANURA				
	Family BUFONIDAE				
1.	<i>Bufo melanostictus</i> Schneider	+	+	+	LC
2.	<i>Bufo stomaticus</i> Lutken	+	+	+	LC
3.	<i>Bufo scaber</i> Schneider	+		-	
	Family MICROHYLIDAE				
4.	<i>Kaloula taprobanica</i> Parker	+	+	-	LC
5.	<i>Microhyla ornata</i> (Dumeril & Bibron)	+	+	+	LC
6.	<i>Ramanella variegata</i> Stoliczka	+	-	-	LC
7.	<i>Uperodon globulosus</i> (Gunther)	+	+	+	LC
8.	<i>Uperodon systoma</i> (Schneider)	+	-	-	LC
	Family RANIDAE				
9.	<i>Euphlyctis cyanophlyctis</i> (Schneider)	+	+	+	LC
10.	<i>Fejervarya limnocharis</i> (Boie)	+	+	+	LC
11.	<i>Hydrophylax malabarica</i> (Tschudi)	+	-	-	LC
12.	<i>Hoplobatrachus tigerinus</i> (Daudin)	+	+	+	LC
13.	<i>Sphaerotheca breviceps</i> (Schneider)	+	+	+	LC
	Family RHACOPHORIDAE				
14.	<i>Polypedates maculatus</i> (Gray)	+	+	+	LC

1. Order ANURA

Family BUFONIDAE

1. *Bufo melanostictus* Schneider

1799. *Bufo melanostictus* Schneider, *Hist. Amph.*, 1 : 216.

Common Name : Common toad, Common Indian toad, Common Asian toad (E).

Diagnosis : Snout to vent 55-130 mm; large-sized toads; head broader than long with cornified bony ridges; snout rounded; nostril nearer to tip of snout than eye; tympanum circular or oval nearly two-third diameter of eye. parotoid glands large and bean-shaped; fingers without webs, first finger equal to second; tips of fingers and toes swollen; toes partly webbed with more than three phalanges free, fourth toe free; two oval metatarsal tubercles present; skin is rough with several black-tipped spiny warts on dorsum; ventrum also rough.

Colour : In life, uniform greyish or dark brownish with a few yellow or pink spots on dorsum; ventrum dull white with a yellowish tinge.

Habitat : Uses any available habitat from sea level to over 2000 m ASL in the hills. Found in roadsides and gardens of towns, under logs, stones, piles of bricks, in moist holes and crevices of tree-trunks or even in the dark corners of village huts and bathrooms. Despite their preference for human-modified habitats and homesteads, they may be seen along the edges of forests.

Distribution : Throughout the plains of Indian subcontinent.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka and south-east Asia upto Indonesia.

Remarks : Breeds in all types of water bodies, throughout the year. Also breeds close to the sea. Commonest toad in India.

2. *Bufo stomaticus* Lutken

1862. *Bufo stomaticus* Lutken, *Vidensk. Medd. Dansk. Naturlist. Foren.*, : 305

Common Name : Marbled toad (E).

Diagnosis : Snout to vent 48-86 mm; medium-sized toad; head broader than long, without any bony ridges; snout rounded; nostril nearer to tip of snout than eye; tympanum circular or oval and nearly two-thirds diameter of eye; parotoid glands large, flat and elliptical but not bean-shaped; fingers without webs, first finger longer than second; tips of fingers and toes swollen; toes are two-third webbed with two phalanges free; fourth toe free; two metatarsal tubercles present; several irregular flat warts on dorsum; ventrum coarsely granular except chin and throat.

Colour : In life dorsum brownish or olive-grey, sometimes marbled; ventrum dull white.

Habitat : Drier and semi-arid areas upto about 2000 m ASL in the Himalayas; burrows in sandy soil and found under stones and crevices of tree-trunks.

Distribution : Throughout India.

Elsewhere : Southern Afghanistan, Bangladesh, Arabian Peninsula, Bangladesh, eastern Iran, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Often found in association with Common Indian toads near seashore. Not as common as *Bufo melanostictus*

3. *Bufo scaber* Schneider

1799. *Bufo scaber* Schneider, *Hist. Amph. Nat.*, : 222.

Common Name : Boulenger's burrowing Toad (E).

Diagnosis : Snout to vent 40-46 mm; distinct ridges on the head and numerous spiny warts more around the sides of the head and shoulders; the back and sides of the body also warty; fingers without webs, the first and second fingers equal; toes minutely webbed; parotid glands are round and tympanum and less than half eye diameter; males have single vocal sac and ventrum like sand-paper.

Colour : Olive-brown or reddish with darker markings on legs; ventrum uniformly light translucent fawn.

Habitat : Coastal scrublands and drier cultivated areas.

Distribution : Peninsular India (Andhra Pradesh, Chhattisgarh, Karnataka, Kerala, southern Orissa, Tamil Nadu).

Elsewhere : Sri Lanka.

Remarks : Not rare. (This species is the first record from Chhattisgarh).

2. Family MICROHYLIDAE

4. *Kaloula taprobanica* Parker

1934. *Kaloula pulchra taprobanica* Parker, *Trust. Brit. Mus. London* : 86-87

Common Name : Painted frog, Painted Kaloula (E).

Diagnosis : The snout to vent 35-58 mm; medium-sized stout toad-like *Colourful* burrowing frog; head broader than long and the snout short and rounded; the nostrils, nearer to the tip of the snout than the eye; the inter-orbital space broader than the upper

eyelid; tympanum not exposed; fingers, without webs; the first finger, shorter than the second; tips of the fingers bear short well-developed truncate discs; toes, about one-third webbed and terminated with dilated triangular discs; the inner metatarsal tubercle well-developed, large and shovel-shaped but the outer metatarsal tubercle small; the tarso-metatarsal articulation reaches the shoulder; dorsal side rough with scattered warts; skin wrinkled on the belly but granular on the throat and underside of the thighs.

Colour : Blackish-brown or greyish-brown with brown or bright red blotches on the back and patches margined with black; two dark reddish lateral bands run on each side from the eyes to the groin, interconnected between the eyes; belly light brownish or white, spotted with grey.

Habitat : Open urban forests and countryside, near bamboo groves.

Distribution : Throughout the plains of northern and southern India and Assam.

Elsewhere : Nepal, Sri Lanka.

Remarks : One of the most beautiful Indian frog which is subterranean in habits but can also climb tree-trunks to some extent. Not uncommon.

5. *Microhyla ornata* (Dumeril & Bibron)

1841. *Engystoma ornatum* Dumeril & Bibron, *Erp. Gen.*, 8 : 745.

Common Name : Ornate narrow-mouthed frog (E).

Diagnosis: The snout to vent 18-26 mm; small-sized, stout, active frogs with small arrow-shaped head and bulging eyes; head broader than long; snout somewhat pointed and projects beyond the narrow mouth; tongue elliptical; nostril nearer to the tip of the snout than the eye; tympanum indistinct; pupil circular; fingers rather slender and do not bear webs, the first finger shorter than the second; tips of the fingers dilated into small discs; toes minutely webbed at the base and tips dilated into small discs, devoid of grooves; metatarsal tubercles distinct, the inner being more well-developed; hind limbs moderately long and the tibio-tarsal articulation reaches the eye when the hind limb held parallel to the body; skin smooth; a distinct fold from the eye to the shoulder.

Colour : The body matches the colour of the soil. The dorsal side greyish-brown or reddish-brown with a distinct dark brown diamond-shaped marking on the back, beginning between the eyes, extending to both the upper eyelids, narrowing behind the head and widening above the shoulder, then narrowing again and finally broadening out and sending a stripe to the groin and the thigh. A dark streak extends along the sides from behind the eye to the shoulder. Limbs with dark brownish cross bars. Ventrums dull whitish, with throat and chest stippled with brown.

Habitat : Deciduous and evergreen forests, also urban areas and agricultural lands.

They have adapted themselves to live in different biotopes from semi-desert to heavy rainfall areas in the plains and upto 5000 ft in the hills.

Distribution : Throughout India.

Elsewhere : South-eastern Asia upto Japan, Bangladesh, Myanmar, Nepal, Sri Lanka.

Remarks : Can call very loudly and jump tremendously when compared to its very small size. Very common.

6. *Ramanella variegata* (Stoliczka)

1872. *Callula variegata* Stoliczka, *Proc. Asiat. Soc. Beng.*, : 111.

Common Name : Variegated Ramanella, Termite nest frog (E).

Diagnosis : The snout to vent 22-41 mm; head broader than long; snout rounded, longer than the diameter of the eye and projects beyond the mouth; nostril nearer to the tip of the snout than the eye; inter-orbital space flat and much broader than the upper eyelid; hidden tympanum; fingers rather long with enlarged triangular terminal discs; first finger shorter than the second but only slightly shorter than the fourth; toes with rudimentary web and dilated tips; outer metatarsal tubercle very small and conical while the inner metatarsal tubercle large and oval; skin smooth but granular near the anus.

Colour : Dorsal brown with yellow marblings or spots; upper surface of the limbs are also with marblings; ventral white but in total, no stable pattern.

Habitat : Urban areas to open forests and cultivation in the plains.

Distribution : Andhra Pradesh, Chhattisgarh, Karnataka, Kerala, Tamil Nadu, and Orissa.

Elsewhere : Sri Lanka.

Remarks : It can climb up tree-trunks and pipes of buildings. It is quite common in the Kangerghati National Park and a new record from Chhattisgarh.

7. *Uperodon globulosus* (Gunther)

1864. *Cacopus globulosum* Gunther, *Rept. Br. India* : 416.

Common Name : Balloon frog (E).

Diagnosis : The snout to vent 66-80 mm; medium-sized, rotund or globular-shaped, toad-like burrowing frog with small beady eyes; head small and much broader than long; snout rounded; nostril equidistant between the tip of the snout and the eye; inter-orbital space very wide about two and a half times the width of the upper eyelid; hidden

tympanum; tongue oval; fingers free of web; first finger shorter than the second; tips of the fingers swollen but do not bear discs; hind legs short; toes with a rudiment of web; two well-developed, large and shovel-shaped inner and outer metatarsal tubercles present; skin smooth or tuberculated above but wrinkled below; anal region granular; an indistinct skin fold runs from the eye to the shoulder.

Colour : Brownish or grey above and dirty white below with tinges of yellow; a few tiny spots on the fore and hind legs and also along the sides of the belly.

Habitat : Semi-open mixed forest with loose sand and soft gravel. The forest floor may be littered with piles of decaying logs infested with termites. Also found on stream beds having damp soil with high water retention capacity.

Distribution : North India including Assam and southern India.

Elsewhere : Sri Lanka.

Remarks : Emerges from underground only during breeding season (early monsoon). Not uncommon.

8. *Uperodon systoma* (Schneider)

1799. *Rana systoma* Schneider, *Hist. Amph.*, : 144.

Common Name: Marbled balloon frog (E).

Diagnosis : Snout to vent 55-62 mm; toad-like burrowing frog with globular body and beady eyes; head wedge-shaped and broader than long; snout rounded and equal to the diameter of the eye; nostril equidistant between the tip of the snout and the eye; inter-orbital space twice the width of the upper eyelid; hidden tympanum; fingers free of webbing; first finger shorter than the second and the tips do not bear discs; toes rather short and webbed at the base; presence of two strong compressed shovel-shaped metatarsal tubercles diagnostic, and inner very large; tibio-tarsal articulation reaches the shoulder; skin smooth and slimy but granular at the anal region and on the undersurface of the thighs.

Colour : Olive, greenish-yellow or pinkish above marbled or spotted with blackish-brown resembling a leopard's coat to some extent; whitish below; throat and belly creamy-yellow; lateral sides yellowish; no median line.

Habitat : Scrub and deciduous forests and cultivation areas.

Distribution : Mainly Peninsular India but found upto Punjab and Rajasthan.

Elsewhere : Sri Lanka.

Remarks : Emerges only during breeding season and calls like the bleating of a goat. Not uncommon.

3. Family RANIDAE

9. *Euphlyctis cyanophlyctis* (Schneider)

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.*, 1 : 137.

Common Name : Skittering frog, Skipping frog, Skipper frog, Water Skipper (E).

Diagnosis : Snout to vent 30-69 mm; medium-sized pond frog; head broader than long; snout rounded; nostril equidistant between tip of snout and eye; tympanum, nearly equal to diameter of eye; fingers without webbing, first finger equal to second; tips of fingers pointed; subarticular tubercles prominent; toes fully webbed; Tips of toes swollen and rounded; a pointed toe-like inner metatarsal tubercle present but outer absent; Tibiotarsal articulation reaches between eye and nostril when hind limb held parallel to body; small warts present on dorsum; belly smooth with a single row of porous warts on each flank; A prominent skin-fold runs from behind eye to shoulder.

Colour : Grey, greyish-brown or greyish-black with darker rounded spots on back and stripes on limbs; belly white with black spots along flanks.

Habitat : All kinds of water bodies including polluted ones from sea level to 2000 m ASL.

Distribution : Throughout the plains of India and also in the hills upto 2000 m ASL.

Elsewhere : Afghanistan, Bangladesh, Bhutan, western China, Iran, Iraq, northern part of Malay Peninsula, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Saudi Arabia.

Remarks : The species is the most adaptive of Indian amphibians and live in all sorts of wetlands. It can tolerate brackish water and polluted water. Most common frog of the country.

10. *Fejervarya limnocharis* (Boie)

1835. *Rana limnocharis* Boie, *Nova. Acta. Acad. Caesar. Leop. Coral. Hall.*, 17 : 225.

Common Name : Cricket frog, Paddy-field frog (E).

Diagnosis : Snout to vent 30-62 mm; small to medium sized frogs; head as long as broad; snout somewhat pointed and projects beyond mouth; nostril nearer to tip of snout than eye; tympanum two-third of eye diameter; fingers without web, first finger longer than second; tips of fingers and toes swollen but not disc-like; subarticular tubercles prominent; toes half-webbed with three phalanges, fourth toe free; a distinct oval metatarsal tubercle; tibiotarsal articulation reaches between eye and nostril when hind limb held parallel to body; some short and interrupted glandular folds are present on dorsum; a prominent skin-fold runs from behind eye to shoulder; belly smooth.

Colour : Olive-brown above, usually with distinct darker markings which assume irregular patterns; a V-shaped band between eyes; lips and limbs barred; a yellowish or reddish median streak of varying width is often present; ventrum whitish.

Habitat : Largely a land-dwelling species and inhabits all sorts of moist *Habitats* including evergreen forests, from sea level to 3000 m ASL; common in villages, agricultural lands, along streams and irrigation canals, banks of ponds and ditches; bushes and hedges growing at the edge of paddy-fields are favourite haunts.

Distribution : Throughout the plains of India except the desert areas; also up in the hills upto 3000 m ASL.

Elsewhere : Bangladesh, Bhutan, Borneo, China, Japan, Malay Peninsula, Myanmar, Nepal, Pakistan, Phillipines Sri Lanka, Sumatra, Taiwan, Thailand.

Remarks : This species originally described from Java includes many species (a large species complex) that inhabits different parts of south-east Asia. It is the commonest frog of the country.

11. *Hydrophylax malabaricus* (Tschudi)

1838. *Rana malabarica* Tschudi, *Classif. Batra* : 80.

Common Name : Fungoid frog (E).

Diagnosis : Maximum length from snout to vent 81 mm; medium-sized land frog; snout is obtuse, projecting slightly beyond the mouth; tympanum large, slightly less or equal to the diameter of the eye; first finger longer than the second; tips of the fingers and toes swollen, but not enlarged into discs; toes feebly webbed with two or three phalanges of the fourth toe free; tibio-tarsal articulation reaches the tympanum or the eye when the hind limb held parallel to the body; dorsal skin smooth or granular with a distinct dorso-lateral glandular fold from above the tympanum to the groin, along the flanks; a shorter fold terminating in a large gland below the tympanum or continued as a line of glands along the sides.

Colour : Back bright orange-red, yellowish-red or crimson from the tip of the snout to the vent, distinctly separated from the black of the flanks along the side of the snout, upper eyelid and dorso-lateral fold; upper lip white and the *Colour* may extend along the line of glands on the side; ventrally uniform white or spotted or marbled with black. The red *Colouration* of the back resembles red bark fungus and the obliterative pattern of the rest of the body breaks the outline, merging the frog into the background; hence the name fungoid frog.

Habitat : Prefers forested land particularly Sal forests though found in open moist countryside. Hides under leaf litter but also semi-arboreal.

Distribution : Throughout peninsular India in Andhra Pradesh, Goa, Karnataka, Kerala Madhya Pradesh, Maharashtra, southern Gujarat, southern Orissa and Tamil Nadu.

Remarks : Endemic to India. Quite common wherever it occurs.

12. *Hoplobatrachus tigerinus* (Daudin)

1802. *Rana tigerina* Daudin, *Hist. Nat.*, : 42.

Common Name : Indian Bull frog, Bull frog (E).

Diagnosis : Snout to vent length 45-160 mm; large frog with smooth skin and longitudinal glandular folds on back; head as long as broad; snout somewhat pointed, projects beyond mouth; nostril equidistant between tip of snout and eye; tympanum distinct, nearly equal to eye diameter; fingers without webs, first finger longer than second; tips of fingers and toes not sharply pointed; toes fully webbed but web does not reach the tip of third toe; fifth toe with an outer fringe of web; subarticular tubercles prominent; inner metatarsal tubercle short and blunt, outer absent; lower side smooth with no porous warts on flanks; a prominent skin-fold runs from behind eye to shoulder.

Colour : Dorsum yellowish or olive-green or brownish-green with darker leopard-like spots; a yellow median stripe runs from tip of snout to vent; ventrum whitish; limbs black barred or spotted.

Distribution : Throughout India from the base of the Himalaya to the south.

Elsewhere : Bangladesh, south China, Myanmar, Nepal, Pakistan, Sri Lanka, Taiwan, Thailand.

Habitat : Among grasses, bushes and hollows at the edge of ponds, ditches, canals and stream-sides. It inhabits from sea level to about 1000 m ASL.

Remarks : Killing for its hind-legs for frozen frog-leg export industry has largely decimated its population in the countryside. Since frog-leg export was banned by Govt of India from 1st April, 1986 the natural populations are reviving. It is one of the most common large frog of the country.

13. *Sphaerotheca breviceps* (Schneider)

1799. *Rana breviceps* Schneider, *Hist. Amph.*, 1 : 140.

Common Name : Burrowing frog, Indian Burrowing frog, Short-headed burrowing frog (E).

Diagnosis : Snout to vent length 28-52 mm; stout medium-sized toad-like burrowing frog. head broader than long; snout short and rounded, not projecting beyond mouth; nostril equidistant between snout tip and eye; tympanum about half eye diameter; fingers

without webs, first finger longer than second but equal to third; tips of fingers swollen but not disc-like; hind limbs very short; subarticular tubercles well-developed; toes slightly webbed; a highly developed, large, shovel-shaped or crescentic inner metatarsal tubercle present, outer absent; Tibiotarsal articulation reaches shoulder, when hind limb held parallel to body; skin smooth on dorsum but granular on belly and under thighs.

Colour : Dorsum yellowish-brown or greyish with dark spots or markings; ventrum pinkish-white and throat sometimes brownish.; upper lip with dark vertical bars and limbs with irregular dark cross-bars; a yellow median streak often present.

Habitat : Subterranean, spends much of its life underground staying beneath debris, wet sand and within burrows.

Distribution : Throughout the plains of India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Emerges from underground during the monsoons only to breed. Not common.

4. Family RHACOPHORIDAE

14. *Polypedates maculatus* (Gray)

1832. *Hyla maculata* Gray, III. *Indian Zoology*, 1 : 82.

Common Name : Common tree frog, Common Indian tree frog, Chunam frog (E).

Diagnosis : Snout to vent length 50-85 mm; medium-sized, narrow-waisted tree frog with slender elongated limbs and goggling eyes; head broader than long, skin on the head free but a bony arch may be present; snout somewhat pointed and projects a little beyond the mouth; nostril nearer to the tip of the snout than the eye; inter-orbital space broader than the upper eyelid; tympanum distinct about three-fourth the diameter of the eye; fingers with rudimentary web, the first finger equal to the second; tips of the fingers and toes dilated into flattened, spherical or horse-shoe shaped adhesive discs; toes nearly fully webbed with two segments, fourth toe free; tarso-metatarsal articulation reaches the nostrils when the hind leg is held parallel to the body; skin smooth above but granular on the belly and underside of the thighs; a skin fold from the eye to the shoulder.

Colour : The colour varies from brownish, yellowish, greyish or whitish on the dorsal side, sometimes with darker spots or patches; ventral side white; a dark brown marking extends from the nostril on both sides of the head, covering the eye, down the flanks right upto the middle of the belly; the limbs are cross-barred and the lower side of the thighs marbled with round yellow or brown spots or a purplish network.

Habitat : Moist secondary deciduous forests in trees, bushes, shrubs, among leaf-litter along the course of streams and beside ponds, ditches *etc.* and also in semi-urban towns with extensive gardens, orchards or plantations.

Distribution : Throughout the plains of northern and southern India and in the hills upto 3000 m ASL.

Elsewhere : Bangladesh, Nepal, Sri Lanka.

Remarks : Lays eggs in hanging foam-nests near water in which the tadpoles fall later and develop; very common.

SUMMARY

This work has recorded 14 species under 11 genera 4 families and 1 order. Out of 14 species 1 species is endemic.

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INTRODUCTION

The Kangerghati, Guru Ghasidas and Sanjay National Parks are interspersed with mainly small rivers and rivulets. The main river of Kangerghati N.P. is Kanger river which is flowing almost through the middle of the National Park and at the same time the Park is netted with its tributaries. The Guru Ghasidas N.P. is interspersed with six main rivers viz. Gopad, Bijadhur, Lodhar, Rihand, Mohan and Neur. There are number of small streams which flow only in the monsoon and sometimes in the post monsoon period. The river Son is flowing through the northwest of Sanjay N.P. and small rivers and rivulets release their water in the Son. Altogether 62 species of fishes are recorded from the rivers, rivulets and other water sources of the National Parks.

A number of workers have enlightened the field of fish research in Madhya Pradesh but very few work so far been carried out in the above mentioned three conservation areas. Only few workers like Datta and Karmakar (1980, 1981), Dubey and Mehra (1959/1962), Hora (1938, 1940, 1949), Karmakar and Datta (1988), Pati (2002), Saxena (1988), Sen (1995) have given some idea on the fishes of that region.

List of Species with availability and Status :

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
	Order CYPRINIFORMES				
	Family CYPRINIDAE				
	Subfamily CYPRININAE				
1.	<i>Puntius sophore</i> (Hamilton)	+	+	+	LR/nt
2.	<i>P. gclius</i> (Hamilton)	+	+	+	
3.	<i>P. sarana sarana</i> (Hamilton)	+	+	+	VU

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
4.	<i>P.conchoni</i> (Hamilton)	+	+	+	VU
5.	<i>P. ticto</i> (Hamilton)	+	+	+	LR/nt
6.	<i>P. chola</i> (Hamilton)	+	+	+	VU
7.	<i>Labeo pangusia</i> (Hamilton)	+	+	+	LR/nt
8.	<i>L. dyocheilus</i> (McClelland)	+	+	+	VU
9.	<i>L. gonius</i> (Hamilton)	+	+	+	LR/nt
10.	<i>L. bata</i> (Hamilton)	+	+	+	LR/nt
11.	<i>L. boga</i> (Hamilton)	+	+	+	LR/nt
12.	<i>L. boggut</i> (Sykes)	+	+	+	
13.	<i>L. dero</i> (Hamilton)	+	+	+	VU
14.	<i>L. fimbriatus</i> (Bloch)	+	+	+	LR/nt
15.	<i>Tor tor</i> (Hamilton)	+	+	+	EN
16.	<i>Parapsilorhynchus tentaculatus</i> (Annandale)	+	+	+	
	Subfamily RASBORINAE				
17.	<i>Asbidoparia morar</i> (Hamilton)	+	+	+	LR/nt
18.	<i>Amplipharyngodon mola</i> (Hamilton)	+	+	+	LR/lc
19.	<i>Danio devario</i> (Hamilton)	+	+	+	LR/nt
20.	<i>D. acquirinnatus</i> (McClelland)	+	+	+	LR/nt
21.	<i>Barilius bendelisis</i> (Hamilton)	+	+	+	LR/nt
22.	<i>B. barila</i> (Hamilton)	+	+	+	VU
23.	<i>B. barna</i> (Hamilton)	+	+	+	LR/nt
24.	<i>B. shacra</i> (Hamilton)	+	+	+	LR/nt
25.	<i>B. vagra</i> (Hamilton)	+	+	+	VU
26.	<i>Esomus danricus</i> (Hamilton)	+	+	+	LR/lc
27.	<i>Rasbora daniconius</i> (Hamilton)	+	+	+	LR/nt
	Subfamily GARRINAE				
28.	<i>Garra gotyla gotyla</i> (Gray)	+	+	+	VU

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
29.	<i>Crossocheilus latius latius</i> (Hamilton) Subfamily CULTRINAE	+	+	+	DD
30.	<i>Salmostoma bacaila</i> (Hamilton)	+	+	+	LR/lc
31.	<i>S. phulo</i> (Hamilton)	+	–	–	
32.	<i>Chela cachi</i> (Hamilton)	–	+	+	
33.	<i>C. laubuca</i> (Hamilton) Subfamily NOEMACHEILINAE	–	+	+	LR/lc
34.	<i>Noemacheilus denisonii denisonii</i> Day	+	–	–	
35.	<i>N. d. dayi</i> Hora	+	+	+	
36.	<i>N. botia</i> (Hamilton)	+	+	+	LR/nt
37.	<i>Oreonectes evezardi</i> Day Family BALITORIDAE Subfamily COBITINAE	+	+	+	
38.	<i>Lepidocephalus guntea</i> (Hamilton) Order SILURIFORMES Family BAGRIDAE	+	+	+	
39.	<i>Aorichthys aor</i> (Hamilton)	+	+	+	
40.	<i>A. seenghala</i> (Sykes)	+	+	+	
41.	<i>Rita chrysea</i> Day	–	+	+	EN
42.	<i>R. rita</i> (Hamilton)	+	+	+	LR/nt
43.	<i>Mystus bleekeri</i> (Day)	+	+	+	VU
44.	<i>M. cavasius</i> (Hamilton)	+	+	+	LR/nt
45.	<i>M. tengara</i> (Hamilton)	–	–	+	
46.	<i>M. vittatus</i> (Bloch) Family SILURIDAE	+	+	+	VU
47.	<i>Ompok pabda</i> (Hamilton)	–	+	+	EN
48.	<i>O. bimaculatus</i> (Bloch)	+	+	+	EN

Sl. No.	Scientific Name	KAN N.P.	GGD N.P.	SAN N.P.	Status (IUCN 2006)
49.	<i>Wallago attu</i> (Schneider) Family SCHILBEIDAE Subfamily AILINAE	+	+	+	LR/nt
50.	<i>Ailia coila</i> (Hamilton) Family HETEROPNEUSTIDAE	–	+	+	VU
51.	<i>Heteropneustes fossilis</i> (Bloch) Family CLARIIDAE	+	+	+	VU
52.	<i>Clarias batrachus</i> (Linnaeus) Order PERCIFORMES Family CHANNIDAE	+	+	+	VU
53.	<i>Channa marulius</i> (Hamilton)	+	–	–	LR/nt
54.	<i>C. orientalis</i> Bloch & Schneider	–	+	+	VU
55.	<i>C. punctatus</i> (Bloch)	+	+	+	LR/nt
56.	<i>C. striatus</i> (Bloch) Family ANABANTIDAE	+	–	–	LR/lc
57.	<i>Anabas testudineus</i> (Bloch) Family GOBIIDAE Sub-family GOBIINAE	+	+	+	VU
58.	<i>Glossogobius giuris</i> (Hamilton) Order SYNBRANCHIFORMES Family MASTACEMBELIDAE	+	+	+	LR/nt
59.	<i>Macrogathus aral</i> (Bloch & Schneider)	+	+	+	LR/nt
60.	<i>M. pancalus</i> Hamilton	+	+	+	LR/nt
61.	<i>Mastacembelus armatus</i> (Lacépède) Order ATHERINIFORMES Family BELONIDAE	+	+	+	
62.	<i>Xenentodon cancila</i> (Hamilton)	+	+	+	LR/nt

1. Order CYPRINIFORMES

1. Family CYPRINIDAE

Subfamily CYPRININAE

1. *Puntius sophore* (Hamilton)

1822. *Cyprinus sophore* Hamilton, Fishes of Ganges : 310, 389, pl. 19, Fig. 86.

1999. *Puntius sophore*, Jayaram, Freshwater Fishes of the Indian Region : 114, pl. IV, fig. 1, Narendra Publishing House, Delhi.

Common Names : Spotfin Swamp Barb (E); Katcha-karawa, Pottiah, Pothe (H).

Diagnosis : D iii-iv 8-9; A iii 5; P i 14-16; V i 8

Body deep, dorsal profile more convex than ventral, its depth 2.7 to times in standard length; mouth terminal; barbels absent; dorsal fin origin midway between tip of snout and the base of caudal fin, which is forked; lateral line complete, with 22 to 27 scales; predorsal scales 8-10.

Colour : In life, silvery, back grey-green to brownish; flanks underside white; a deep black round blotch at base of caudal fin; a similar black blotch on central part of dorsal fin or also on anterior part of the body adjacent to dorsal fin.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : This species attains a length of about 13 cm. and is considered of medicinal value.

2. *Puntius gelius* (Hamilton)

1822. *Cyprinus gelius* Hamilton, Fishes of Ganges : 320,390, pl. 145, fig.3.

1999. *Puntius gelius*, Jayaram, Freshwater Fishes of the Indian Region : 112, Narendra Publishing House, Delhi.

Common Names : Golden barb, Golden Dwarf barb (E).

Diagnosis : D ii-iii 8; A iii 5; P i 14; V i 8

Body elongate, its depth 2.5 to 2.8 times in standard length; mouth moderate; no barbel; dorsal fin inserted slightly in advance of pelvic fins, its unbranched ray osseous, strong and rather coarsely serrated, its length more than depth of body and also the head length; caudal fin deeply forked; lateral line incomplete, ceases after 5 or 6 scales; 23 to 24 scales in longitudinal series; predorsal scales 8.

Colour : In life, back olive green to brownish, a broad longitudinal band commences as a red-golden stripe and posteriorly becomes broader and increasingly copper *Colour* ed until it ends in a shining coppery blotch at base of caudal fin.; flanks with irregular blotches and streaks of dark to deep black.

Geographical Distribution : India : Assam, Chhattisgarh, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, West Bengal.

Elsewhere : Bangladesh.

Remarks : Its habitat is rivers and standing water over silt and mud. Due to attractive coloured bands and small size it is used as an aquarium fish.

3. *Puntius sarana sarana* (Hamilton)

1822. *Cyprinus sarana* Hamilton, Fishes of Ganges : 307, 388.

1999. *Puntius sarana sarana*, Jayaram, Freshwater Fishes of the Indian Region : p. 113, Narendra Publishing House, Delhi.

Common Names : Olive barb (E); Giddi-kaoli, Durhie, Potah, Pothi (H).

Diagnosis : D iii-iv 8; A iii 5; P i 14-16; V i 8.

Body elongate, depth 2.7 to 3 times in standard length; head small; mouth moderate; barbels two pairs, rostral ones as long as orbit; maxillary pair much longer; dorsal fin originates slightly nearer to snout tip than to base of caudal fin, opposite the insertion of pelvic fin; its last unbranched ray osseous, strong and finely serrated posteriorly; caudal fin forked; lateral line complete, with 30-33 scales; predorsal scales 11 or 12.

Colour : In life, back olive, flanks silvery with golden reflections; sometimes the young have dull blotch on the lateral line before caudal base; fins dusky brown to orange.

Geographical Distribution : India : North of Krishna river system.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan.

Remarks : This species attains a length of about 31 cm and breeds during monsoon in running waters amongst submerged boulders and vegetation.

4. *Puntius conchoni* (Hamilton)

1822. *Cyprinus conchoni* Hamilton, Fishes of Ganges : 317, 389.

1999. *Puntius conchoni*, Jayaram, Freshwater Fishes of the Indian Region : p. 111, Narendra Publishing House, Delhi.

Common Names : Rosy barb, Red barb (E); Kharauli-Pothi, Pothi (H).

Diagnosis : D iii 7-8; A ii-iii 5; P i 18; V i 8.

Body deep and compressed, its depth 2.2 to 2.5 times in standard length; mouth moderate; no barbels; dorsal fin origin in advance of pelvic fin midway between the anterior margin of the orbit and base of caudal fin; its last unbranched ray osseous, moderately strong and serrated; scales medium; lateral line incomplete, ceases after 8-10 scales; 24-26 scales in longitudinal series.

Colour : In life, back greenish grey becoming silvery towards sides; a large dark spot above posterior part of anal fin; fins orange in colour, dorsal fin with its upper half black.

Geographical Distribution : India : Brahmaputra, Ganga, Mahanadi river systems in Assam, Bihar, Chhatisgarh, Orissa, Uttar Pradesh, West Bengal and Cauvery river system in southern India.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This is one of the most ornamental *Puntius* species. The fish is docile and can generally be kept together with other small fishes.

5. *Puntius ticto* (Hamilton)

1822. *Cyprinus ticto* Hamilton, Fishes of Ganges : 314, 398, pl. 8, fig. 87.

1999. *Puntius ticto*, Jayaram, Freshwater Fishes of the Indian Region : 114, pl. IV, fig. 2, Narendra Publishing House, Delhi.

Common Names : Two spot barb, Firefin barb (E); Kaoli, Pothia (H).

Diagnosis : D iii-iv 8; A ii-iii 5; P i 12-14; V i 8.

Body elongate, its depth 2.4 to 2.9 times in standard length; mouth terminal, upper jaw slightly longer; no barbels; dorsal fin inserted slightly posterior to pelvic origin; its last unbranched ray osseous, strong and serrated; lateral line incomplete, ceases after 6-8 scales in longitudinal series. Predorsal scales 9-11; caudal fin forked.

Colour : In life, back grey to grassy green; flanks silvery; a long, transverse black blotch (often faint) above the pectoral fin and another similar on caudal peduncle over the end of anal fin.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.

Remarks : The arching reddish area in the dorsal fin of the male easily distinguishes the species; the dorsal fin of the female is pale.

6. *Puntius chola* (Hamilton)

1822. *Cyprinus chola* Hamilton, Fishes of Ganges : 312, 289.

1999. *Puntius chola*, Jayaram, Freshwater Fishes of the Indian Region : 111, Narendra Publishing House, Delhi.

Common Names : Swamp barb, Chola barb (E), Siddhari (H).

Diagnosis : D iii 8; A ii 5; P i 14; V i 8.

Body fairly deep and compressed; depth 2.8 to 3.1 times in standard length; mouth moderate; one maxillary pair of barbels, almost half of the eye diameter; dorsal fin inserted equidistant between snout tip and base of caudal fin; last unbranched ray osseous, strong and smooth; lateral line complete; 26-28 scales along the lateral line; predorsal scales 10-12; caudal fin forked.

Colour : In life, body silvery; a large, blurred-edged, rosy spot/ blotch on operculum, and often a black blotch behind gill cover; a deep black blotch near base of caudal fin; a dark mark along the base of the anterior dorsal ray.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : There is superficial resemblance between *P. chola* and *P. conchoni* (Hamilton). The dark spot is much nearer to base of caudal fin and a pair of small barbels in *chola* whereas *conchoni* has none.

7. *Labeo pangusia* (Hamilton)

1822. *Cyprinus pangusia* Hamilton, Fishes of Ganges : 285, 386.

1999. *Labeo pangusia*, Jayaram, Freshwater Fishes of the Indian Region : p. 134, pl. VII, fig. 5, Narendra Publishing House, Delhi.

Common Names : Pangusia labeo (E), Boalla, Rewa, Loanee (H)

Diagnosis : Dii-iii 10-11; A ii 5; P i 14-15; V i 8.

Body elongate, dorsal profile more convex than ventral profile; snout obtuse, studded with large pores, projecting over the jaw and having a very distinct lateral lobe; eyes small, diameter 4.5 to 5.5 times in head; mouth small, lips not fringed, but thick with a distinct inner fold which interrupted across lower jaw; barbels a short maxillary pair, concealed in labial fold; dorsal fin inserted distinctly nearer to tip of snout than to the base of caudal fin which is deeply forked; scales moderate; lateral line with 40 -42 scales; Lateral transverse scale rows 5.5-6 between lateral line and pelvic fin base.

Colour : In life, dull green, becoming lighter along flanks and belly, sometimes the base of each scale has a dark spot.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This species is an excellent foodfish and attains a length of about 60 cm.

8. *Labeo dyocheilus* (Mc Clelland)

1839. *Cyprinus (Labeo) dyocheilus* Mc Clelland, *Asiat Res.*, **19**(2) : 268, 330, pl. 37, fig. 1.

1999. *Labeo dyocheilus*, Jayaram, *Freshwater Fishes of the Indian Region* : p. 134, Narendra Publishing House, Delhi.

Common Names : Brahmaputra labeo (E), Boalla (H).

Diagnosis : D ii-iii 10-11; A ii 5; P i 16; V i 8.

Body elongate; snout conical, projecting beyond mouth with a distinct lateral lobe and prominent tubercles; eyes small, diameter 6 to 9 times in head; mouth wide and inferior; lips thick, not fringed; barbels one short maxillary pair; dorsal fin originates equidistant between snout tip and base of caudal fin; pectoral fins extend to pelvic fins; caudal fin deeply forked; scales moderate; lateral line with 42-44 scales; lateral transverse scale rows 5 or 6 between lateral line and pelvic fin base.

Colour : In life, dull, darker above.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Nepal.

Remarks : This species inhabits clear active currents of large rivers and grows maximum 90 cm.

9. *Labeo gonius* (Hamilton)

1822. *Cyprinus gonius* Hamilton, *Fishes of Ganges* : 292, 387. pl. 4, fig. 82.

1999. *Labeo gonius*, Jayaram, *Freshwater Fishes of the Indian Region* : p. 134, pl. VII, fig. 3, Narendra Publishing House, Delhi.

Common Names : Kuria labeo (E).

Diagnosis : D ii-iii 13-16; A ii 5-6; P i 16; V i 8.

Body elongate, dorsal profile more convex than the ventral; snout with numerous pores; eyes moderate, diameter 4.5 to 5.0 times in head; mouth narrow and subinferior;

lips thick, fringed, horny covering inside of both jaws; two very short pairs of barbels (rostral and maxillary); dorsal fin commences nearer to snout tip than the base of caudal fin; pectoral fin length almost equal to head length; caudal fin deeply forked; scales small; lateral line with 71-84 scales; lateral transverse scale rows 9-13 between the lateral line and pelvic fin base.

Colour : In life, greenish black on back, becoming dull white on flanks and belly; scales darkest at their margin, many with red markings on them.

Geographical Distribution : India : Northern India and up to Krishna in the south.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan.

Remarks : This species spawns during south-west monsoon months and grows a length of 1.5m and of fishery interest.

10. *Labeo bata* (Hamilton)

1822. *Cyprinus bata* Hamilton, Fishes of Ganges : 283, 386.

1999. *Labeo bata*, Jayaram, Freshwater Fishes of the Indian Region : 133, Narendra Publishing House, Delhi.

Common Names : Bata laleo (E); Bhagan, Bata (H).

Diagnosis : D ii-iv 9-10; A ii-iii 5; P i 15-17; V i 8.

Body elongate; dorsal profile more convex than ventral profile; eyes large, diameter 4.0 to 4.3 times in head; mouth inferior, lips thin, continuous; a small tubercle above mandibular symphysis and no horny covering inside jaws; barbels one pair of very short maxillary only, not easily perceptible; dorsal fin originates slightly nearer to tip of snout than to caudal base; pectoral fin reaching pelvic fin; scales moderate; lateral line with 37-40 scales; predorsal scales 10-13.

Colour : In life, golden-yellow above and on dorsal half of flanks, silvery on lower half of flanks and belly; young specimens often with 3-4 small, lateral black spots.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This species breeds in rivers during monsoon and cultivated along with the Indian major carp.

11. *Labeo boga* (Hamilton)

1822, *Cyprinus boga* Hamilton, Fishes of Ganges : 286, 386, pl. 28; fig. 80.

1999. *Labeo boga*, Jayaram, Freshwater Fishes of the Indian Region : 133, pl. VII, fig. 1, Narendra Publishing House, Delhi.

Common Names : Boga labeo (E); Bhagan, Bhagna (H).

Diagnosis : D ii-iii 9-10; A ii 5; P i 15; V i 8.

Body elongate, dorsal profile more convex than ventral; snout projecting beyond mouth; eyes large, diameter 3.7 to 4.0 times in head; mouth fairly narrow; lips somewhat thick with a thin layer of cartilage to inner surface of lower jaw; barbels a minute maxillary pair only; dorsal fin origin considerably in advance of pelvic fin origin, nearer to tip of snout than to caudal base; pectoral fins do not extend to pelvic fins; caudal fin deeply forked; scales moderate; lateral line with 37-39 scales; lateral transverse scale rows 5 between lateral line and pelvic fin base.

Colour : In life, orange, often with a dark spot above pectoral fin; fins with reddish tinge.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan.

Remarks : This minor carp is common in the tributaries of the Ganga, Godavari and Krishna rivers.

12. *Labeo boggut* (Sykes)

1838. *Chondrostoma boggut* Sykes, *Trans. Zool. Soc. Lond.*, **2** : 359.

1999. *Labeo boggut*, Jayaram, *Freshwater Fishes of the Indian Region* : 133, Narendra Publishing House, Delhi.

Common Names : Boggut labeo (E).

Diagnosis : D iii 8-9; A ii 5; P i 16; V i 8.

Body elongate and slender; dorsal profile more convex than ventral; snout thick with a few tubercles; eyes moderate, diameter 4.5 to 5.0 times in head; mouth moderate; lips thick, lower lip fimbriated with a horny covering inside; barbels a short maxillary pair only; dorsal fin origin nearer to tip of snout than to caudal fin base; pectoral fin almost equal to head and not extending to pelvic fin; caudal fin deeply forked; scales small; lateral line with 60-65 scales; lateral transverse scale rows 8 or 9 between lateral line and pelvic fin base.

Colour : In life, silvery, darkest on back; a few longitudinal light lines along flanks or a bluish band along the body; a dark spot usually near base of caudal fin.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Pakistan.

Remarks : This species is one of the most slender among *Labeo* spp. and also fairly common in the rivers of West Bengal and Central India.

13. *Labeo dero* (Hamilton)

1822. *Cyprinus dero* Hamilton, Fishes of Ganges : 277, 385, pl. 22, fig. 78.

1999. *Labeo dero*, Jayaram, Freshwater Fishes of the Indian Region : 133, Narendra Publishing House, Delhi.

Common Names : Kalabans (E); Bongsa, Mohaylee, Arangi, Golarai (H).

Diagnosis : D ii-iii 9-12; A ii-iii 5; P i 16-17; V i 7.

Body elongate, dorsal profile more convex than the ventral; snout very prominent, overhanging mouth; eyes fairly small, diameter 4.5 to 5.0 times in head; mouth inferior; lips thick and continuous; lower lip closely papillated internally; barbels one small maxillary pair; dorsal fin inserted midway between snout tip and origin of anal fin, height more than depth of body; caudal fin deeply forked; scales moderate; lateral line with 40-44 scales; lateral transverse scale rows 7 or 8 between lateral line and base of pelvic fin.

Colour : In life, bluish or brownish black on back, bluish silvery on flanks and belly; fins blackish with a faint reddish hue; outer edge of dorsal fin dusky.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Afghanistan: Kabul river, Bangladesh, Myanmar, Nepal, Pakistan: western Punjab and Sind hills.

Remarks : This minor carp in northern India is characterized by the presence of a groove along the snout; flesh is well flavoured and highly esteemed as food and also is used as bait for *Raimas bola* and *Tor putitora*.

14. *Labeo fimbriatus* (Bloch)

1795. *Cyprinus fimbriatus* Bloch, *Naturgesch. Ausland. Fische*, 12 : 50 pl. 409.

1999. *Labeo fimbriatus*, Jayaram, Freshwater Fishes of the Indian Region : 134, Narendra Publishing House, Delhi.

Common Names : Fringed-lipped peninsula carp (E).

Diagnosis : D iii-iv 15-18; A ii-iii 5; P i 15-18; V i 8.

Body elongate, dorsal profile more convex than ventral; snout blunt and fairly swollen, studded with minute pores; eyes moderate, diameter 3.7 to 4.5 times in head; mouth moderate and subinferior; lips thick, fringed and continuous; a cartilaginous covering on the innerside of both jaws; barbels two short pairs (rostral and maxillary); dorsal fin originates nearer to tip of snout than to base of caudal fin which is deeply forked; scales moderate; lateral line with 43 to 47 scales; lateral transverse scale rows 6 or 7 between lateral line and pelvic fin base; predorsal scales 13 to 18.

Colour : In life, dark brown on back, silvery on flanks and abdomen; fins stained black; sometimes a diffused dusky blotch at the base of caudal fin which is almost present in the young ones.

Geographical Distribution : India.

Elsewhere : Myanmar, Nepal, Pakistan.

Remarks : This species do not normally breed in stagnant water. Predominantly a herbivore, feeding on diatoms, blue green and green algae and higher aquatic vegetation.

15. *Tor tor* (Hamilton)

1822. *Cyprinus tor* Hamilton, Fishes of Ganges : 305, 388.

1999. *Tor tor*, Jayaram, Freshwater Fishes of the Indian Region : 96, pl. II, fig. 1, Narendra Publishing House, Delhi.

Common Names : Tor mahseer (E); Mahseer (H).

Diagnosis : D iv 8; A iii 5; P i 14-17; V i 8.

Body stout and fairly deep, depth 3 to 3.7 times in standard length; head relatively small, shorter than body depth; eyes visible from underside of head; mouth small fleshy thick lips with uninterrupted labial fold; barbels 2 pairs, maxillary barbel equal to eye diameter, rostral pair shorter; scales large; lateral line with 22-27 scales; Lateral transverse scale rows 4/2.5.

Colour : In life, dorsal side greyish green, the flanks pinkish with greenish gold above and light olive green below, belly silvery; dorsal fin reddish buff; pelvic, pectoral and anal fin deep orange.

Geographical Distribution : India : Foothills of the eastern and Central Himalayas, higher reaches of the Mahanadi, Assam, Bihar, Jharkhand, Chhatishgarh, Madhya Pradesh, northern West Bengal.

Elsewhere : Bangladesh, Myanmar, Pakistan.

Remarks : A popular species of high esteemed economic importance. A popular game fish too noted for bigger scales, big barbels and uninterrupted labial fold.

16. *Parapsilorhynchus tentaculatus* (Annandale)

1919. *Psilorhynchus tentaculatus* Annandale, *Rec. Indian Mus.*, 16(1) : 128, pl. I, figs. 4a and pl. 3, fig. 2.

1999. *Parapsilorhynchus tentaculatus*, Jayaram, Freshwater Fishes of the Indian Region : 159, Narendra Publishing House, Delhi.

Common Names : Khandalla minnow (E).

Diagnosis : D iii 6-7; A ii 4; P (ii) iii 12-13; V i 8.

Body somewhat cylindrical, back moderately elevated; mouth small, crescentic, upper lip long, fringed; lower lip bilobed and with a small callous pad behind it; barbels a single rostral pair; eye large, not visible from underside of head; dorsal fin inserted opposite to pelvic fins; caudal fin forked; scales small; lateral line complete with 36 -39 scales.

Colour : In life, head and body dark purplish; grey on back, paler immediately above and below mid-lateral region; ventral surface white; a black horizontal bar or spot on caudal peduncle edged with white posteriorly.

Geographical Distribution : India : Yenna River, Satara district, Pune, Maharashtra; Panchmari hills, Bailadila range, Madhya Pradesh; Araku valley, Patalageda, Eastern Ghats, Andhra Pradesh.

Remarks : This small sized fish inhabits in small hill streamlets. Endemic.

Subfamily RASBORINAE

17. *Aspidoparia morar* (Hamilton)

1822. *Cyprinus morar* Hamilton, Fishes of Ganges : 264, 384, pl. 31, fig. 75.

1999. *Aspidoparia morar*, Jayaram, Freshwater Fishes of the Indian Region : p. 68, fig. 44, Narendra Publishing House, Delhi.

Common Names : *Aspidoparia* (E); Chelluah, Harda (H).

Diagnosis : D ii-iii 7-8; A ii 8-10; P i 14; V i 7.

Body elongate and subcylindrical; mouth inferior, jaws short, lower jaw without lower lip; dorsal fin inserted well behind pelvic fin base; lateral line complete, with 38 to 42 scales; predorsal scales 18 to 20; caudal fin emarginated with lower lobe slightly longer.

Colour : In life, back light brown, flanks and belly yellowish-silvery; a lateral streak on sides.

Geographical Distribution : Northern India.

Elsewhere : Bangladesh, Iran, Myanmar, Nepal, Pakistan: Swat river system, Thailand.

Remarks : Economic importance of this species is less due to its small size.

18. *Amblypharyngodon mola* (Hamilton)

1822. *Cyprinus mola* (Hamilton), Fishes of Ganges : 334, 392, pl. 38, fig. 92.

1999. *Amblypharyngodon mola*, Jayaram, Freshwater Fishes of the Indian Region : 86, fig. 54, Narendra Publishing House, Delhi.

Common Names : Mola carplet, Pale carplet (E); Dhawi (H).

Diagnosis : D ii-iii 7; A ii-iii 5-6; P i 13-15; V i 8.

Body elongate, depth 3.5 to 3.8 times in standard length; eyes large, diameter 3.5 to 4.00 in head length; dorsal fin origin behind the pelvic fin origin, nearer to base of caudal fin than to tip of snout; scales small; lateral line incomplete, ceases after 9 to 18 scales; 65 to 91 scales in lateral series; caudal fin forked.

Colour : In life, golden yellow with a broad silvery lateral band on body; usually dark markings on the dorsal, caudal and anal fins.

Geographical Distribution : Throughout India except Kerala.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan.

Remarks : Economically this species is less important due to smaller in size, and attains a length of maximum 20 cm.

19. *Danio devario* (Hamilton)

1822. *Cyprinus devario* Hamilton, Fishes of Ganges : 341, 393, pl. 6, fig. 94.

1999. *Danio devario*, Jayaram, Freshwater Fishes of the Indian Region: p. 76, Narendra Publishing House, Delhi.

Common Names : Devario danio (E); Patunari (H).

Diagnosis : D ii-iii 15-17; A ii-iii 16-17; P i 11-12; V i 7.

Body rhomboidal and compressed, depth 2.6 to 2.9 times in standard length; mouth small, obliquely directed upwards; barbels absent; 3rd suborbital bone broad; dorsal fin inserted slightly anterior to anal fin; caudal fin emarginate to lunate; scales moderate in size; lateral line complete with 33 to 38 scales.

Colour : In life, back greenish, flanks and belly silvery; three blue narrow bands divided by yellow bands extending backwards to base of caudal fin; a pair of blue marks at base of caudal fin often present.

Geographical Distribution : From northern and north-eastern India south to Krishna and Godavari river systems in Deccan.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This pretty species attains a length of 10 cm and is a fairly popular aquarium fish; Spanish moss seems to be the best spawning medium.

20. *Danio aequipinnatus* (Mc Clelland)

1839. *Perilampus aequipinnatus* Mc Clelland, *Asiat. Res.*, **19**(2) : 393, pl. 60, fig. 1.

1999. *Danio aequipinnatus*, Jayaram, *Freshwater Fishes of the Indian Region* : 76, fig. 47, Narendra Publishing House, Delhi.

Common Names : Giant Danio (E).

Diagnosis : D ii-iii 9-12; A ii-iii 14-16; P i 11-12; V i 6.

Body elongate and compressed, depth 2.9 to 3.5 times in standard length; a preorbital spine, backwardly directed, from lachrymal bone; mouth small, directed upwards; maxilla extends up to anterior border of the orbit; barbels 2 short pairs, maxillary pair shorter than rostral pair; dorsal fin inserted well in advance of origin of anal fin; caudal fin forked; scales moderate, lateral line complete, with 35-37 scales.

Colour : In life, brilliant basic blue, a well marked lateral band of dark blue extending from behind head to caudal fin base; another golden band above and below the blue band along sides; a well defined black blotch near upper angle of gill opening generally present.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Thailand.

Remarks : Giant danios abound in running streams and rivers and are generally accustomed to moderately cool and well-aerated water. This species considers an ideal aquarium fish due to its beautiful colouration.

21. *Barilius bendelisis* (Hamilton)

1807. *Cyprinus bendelisis* Hamilton, *Journey Mysore*, **3** : 345, pl. 32.

1999. *Barilius bendelisis*, Jayaram, *Freshwater Fishes of the Indian Region* : 70, Narendra Publishing House, Delhi.

Common Names : Hamilton's barila (E); Angura (H).

Diagnosis : D ii 7; A ii-iii 7-8; P i 14; V i 8.

Body shallow, depth 3.8 to 4.2 times in standard length; mouth moderate, maxilla extends to below the first third of the orbit; barbels 2 pairs (rostral and maxillary), the rostral pair smaller than maxillary pair; dorsal fin inserted entirely in advance of anal fin, nearer to base of caudal fin base than to snout tip; scales moderate in size; lateral line complete, with 40-41 scales; pectoral fin greatly robust and enlarged in matured male; caudal fin forked and the lower lobe of the caudal fin is slightly longer than the upper.

Colour : In life, silvery with a greyish back; 7-8 dark vertical bands in younger specimens which becomes indistinct in adults; all the scales on the body bear a dark spot at the base while scales on lateral line posses double black spots at the base of the sides of lateral line; fins yellowish, tinged with orange.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This species displays sexual dimorphism; body rough due to presence of fine tubercles on the scales especially on the dorsolateral sides of the body in males, but in females lack this character.

22. *Barilius barila* (Hamilton)

1822. *Cyprinus barila* Hamilton, Fishes of Ganges : 267, 384.

1999. *Barilius barila*, Jayaram, Freshwater Fishes of the Indian Region : 69, pl. I, fig. 1, Narendra Publishing House, Delhi.

Common Names : Barred baril (E), Persee (H).

Diagnosis : D ii 7; A iii 10-11; P i 12; V i 8.

Body shallow, depth 4.6 to 4.8 in standard length; mouth moderate; maxilla extends to below anterior third of the orbit; barbels 2 pairs, the rostral pair very short, the maxillary pair long, extends up to anterior third of the orbit; dorsal fin commences opposite interspace between pelvic fin and anal fin and placed entirely in advance of anal fin; pectoral fin about as long as head; caudal fin forked; scales moderate; lateral line complete, with 43-46 scales.

Colour : In life, back dark olivaceous, flanks silvery; 14-15 vertical blue bands (more prominent in young) extends from back to lateral line; fins pinkish.

Geographical Distribution : India: northern part and Orissa.

Elsewhere : Bangladesh, Nepal.

Remarks : The species shows morphological characteristics as adaptations to life in hill-streams.

23. *Barilius barna* (Hamilton)

1822. *Cyprinus barna* Hamilton, Fishes of Ganges : 268, 384.

1999. *Barilius barna*, Jayaram, Freshwater Fishes of the Indian Region : 69, pl. I, fig. 2, Narendra Publishing House, Delhi.

Common Names : Barna baril (E); Darangni (H).

Diagnosis : D ii 7; A iii 10-11; P i 14; V i 8.

Body rather deep, depth 3.4-4 times in standard length; mouth moderate; maxilla extends to below the anterior third of the orbit; barbels 2 pairs, rudimentary; dorsal fin commences opposite in interspace between the pelvic and anal fin, nearer to the base of caudal fin than to the tip of snout; scales moderate; lateral line complete with 39-41 scales; caudal fin deeply forked; usually pectoral fin touches the base of pelvic fin.

Colour : In life, dull silvery green with 7-11 well marked bluish vertical bands, the first of which sometimes passes through the eye; in young, back grey and sides silvery shot with gold and 7-9 deep blue vertical bands.

Geographical Distribution : India : the Brahmaputra, Ganga and Mahanadi river systems.

Elsewhere : Bangladesh, Myanmar and Nepal.

Remarks : A voracious little fish, often takes fly; lack of fishery interest.

24. *Barilius shacra* (Hamilton)

1822. *Cyprinus shacra* Hamilton, Fishes of Ganges : 271.

1999. *Barilius shacra*, Jayaram, Freshwater Fishes of the Indian Region : 70, Narendra Publishing House, Delhi.

Common Names : Shacra baril (E).

Diagnosis : D ii 7; A ii-iii 8; P i 14; V i 8.

Body shallow, depth 4.3 to 4.5 times in standard length; mouth moderate; maxilla reaches to anterior margin of orbit; barbels 2 pairs, well developed, maxillary pair as long as eye, rostral pair slightly longer than maxillary pair; dorsal fin inserted in advance of anal fin; scales moderate; lateral line complete, with 59-70 scales; caudal fin forked.

Colour : In life, back olive, flanks and belly silvery, about 12 vertical bars from back downward towards lateral line; dorsal fin with an inconspicuous band along its upper third.

Geographical Distribution : India : The Ganga, Yamuna and Brahmaputra drainage.
Elsewhere : Bangladesh, Nepal.

25. *Barilius vagra* (Hamilton)

1822. *Cyprinus vagra* Hamilton, Fishes of Ganges : 269, 385.

1999. *Barilius vagra*, Jayaram, Freshwater Fishes of the Indian Region : 70, pl. I. fig. 5, Narendra Publishing House, Delhi.

Common Names : Vagra baril (E); Persee (H).

Diagnosis : D ii-iii 7; A ii-iii 10-12; P i 14-15; V i 8.

Body shallow, depth 5.0 to 5.3 times in standard length; mouth moderate; maxilla extends to middle of orbit; barbels 2 pairs, rostral pair shorter than eye diameter, maxillary pair very short; dorsal fin inserted almost anterior to anal fin and last two fin rays often over anal fin; caudal fin forked; scales moderate; lateral line complete, with 38-44 scales; tubercles small and developed poorly on snout as well as lower jaw.

Colour : In life, silvery with 10-14 bluish vertical bars which usually remain much above lateral line.

Geographical Distribution : India : The Brahmaputra, Ganga, Yamuna river systems.

Elsewhere : Afghanistan, Bangladesh, Nepal, Pakistan: Indus river system.

Remarks : Sometimes young has one pair of barbel.

26. *Esomus danricus* (Hamilton)

1822. *Cyprinus danrica* Hamilton, Fishes of Ganges : 325, 390, pl. 16, fig. 88.

1999. *Esomus danricus*, Jayaram, Freshwater Fishes of the Indian Region : 75, fig. 46, Narendra Publishing House, Delhi.

Common Names : Flying barb (E); Dendu (H).

Diagnosis : D ii 6; A iii 5; P i 14-15; V i 6-7.

Body elongate, slim and compressed, depth 3.3 to 4.8 times in standard length; mouth small; barbels 2 pairs, maxillary pair extremely long and usually extend to about middle of body; rostral barbels short and fleshy; pectoral fins long and pointed; lateral line incomplete, extended up to 4-6 scales anteriorly; predorsal scales 16 or 17.

Colour : In life, olive green to grey green with a pearly iridescence and sprinkled with fine dots; a broad dark lateral band from mouth to base of caudal fin; pelvic fin reddish.

Geographical Distribution : Throughout northern India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Inhabits ponds and weedy ditches, attains a length of about 12 cm.

27. *Rasbora daniconius* (Hamilton)

1822. *Cyprinus daniconius* Hamilton, Fishes of Ganges : 327, 391, pl. 15, fig. 89.

1999. *Rasbora daniconius*, Jayaram, Freshwater Fishes of the Indian Region : 82, fig. 51, Narendra Publishing House, Delhi.

Common Names : Blackline Rasbora (E).

Diagnosis : D ii 7; A ii 5; P i 14; V i 8.

Body oblong and compressed; abdomen rounded; mouth small; lips simple; pectoral fins shorter than head; lateral line nearly complete, with 31 to 34 scales.

Colour : In life, back olive, flanks and belly silvery, a distinct blue black lateral stripe from eye to base of caudal fin along the centre of body, a narrow dark stripe above the anal fin; fins hyaline tinged with yellow.

Geographical Distribution : India : Throughout.

Elsewhere : Bangladesh, Malay Archipelago, Myanmar, Nepal, Pakistan, Sri Lanka, Zanzibar.

Remarks : This species is not favourite to aquarists owing to its less outstanding colour. This fish is very active and hardy.

Subfamily GARRINAE

28. *Garra gotyla gotyla* (Gray)

1832. *Cyprinus gotyla* Gray, *Illustr. Indian Zool.*, 1 : pl. 88, figs. 3, 3a.

1999. *Garra gotyla gotyla*, Jayaram, Freshwater Fishes of the Indian Region : 154, Narendra Publishing House, Delhi.

Common Names : Gotyla (E); Siltoka (H).

Diagnosis : D iii 7-8; A ii 5; P i 14; V i 8.

Body elongate, depth 3.7 to 4.5 times in standard length; head much depressed; interorbital region convex, width 2.2 in head length; snout with a well developed median proboscis and a transverse lobe at the tip; the free extremity of proboscis, transverse lobe and lateral sides of head in front of nostrils are covered with several large spiny tubercles; barbels 2 pairs, anterior pair equal to or shorter than eye diameter and posterior pair much smaller; dorsal fin inserted nearer tip of snout than to caudal fin base; lateral line complete, with 32-35 scales; caudal fin forked.

Colour : In life, dark brown on back and light pink on flanks and belly; a dusky spot behind upper angle of gill opening; a row of dark spots along base of dorsal fin.

Geographical Distribution : India: Assam, all along the Himalayas, Chhotanagpur plateau and the Vindhya- Satpura Mountains of the Peninsula.

Elsewhere : Bangladesh, Pakistan and upper Myanmar.

Remarks : This species can be easily distinguished by the presence of a well developed median proboscis without any lateral lobe on the snout; males with prominent tubercles on the snout.

29. *Crossocheilus latius latius* (Hamilton)

1822. *Cyprinus latius* Hamilton, Fishes of Ganges : 345, 393.

1999. *Crossocheilus latius latius*, Jayaram, Freshwater Fishes of the Indian Region : 154, Narendra Publishing House, Delhi.

Common Names : Gangetic latia (E); Petphorani, Pathachotta (H).

Diagnosis : D iv 8; A ii 5; P i 13; V i 8.

Body rather elongate, depth 4.3 to 5.9 times in standard length; head flat and compressed, snout overhanging mouth, with a small lateral lobe; mouth inferior, a narrow frenulum connecting upper lip with lower jaw; barbels 2 pairs (maxillary and rostral), rostral barbels short and often rudimentary; lateral line complete, with 39 to 41 scales; caudal fin deeply forked.

Colour : In life, upper half of body greyish or light brownish, with irregular black spots; a faint longitudinal stripe on flank which somewhat broadens near base of caudal fin; dorsal and caudal fin yellowish and other fins orange.

Geographical Distribution : Brahmaputra and Ganga river systems, Deolali of Maharashtra.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This species has much the character of a loach or of a *Garra* adhering to stones in river beds.

Subfamily CULTRINAE

30. *Salmostoma bacaila* (Hamilton)

1822. *Cyprinus bacaila* Hamilton, Fishes of Ganges : 265, 384, pl. 8, fig. 76.

1999. *Salmostoma bacaila*, Jayaram, Freshwater Fishes of the Indian Region : 65, fig. 43, Narendra Publishing House, Delhi.

Common Names : Large Rajorbelly minnow (E), Chelliah, Chilwa (H).

Diagnosis : D ii-iii 7; A iii 10-13; P i 11-12; V i 8.

Elongated and strongly compressed body; mouth oblique, lower jaw with a prominent symphyseal knob; gillraker 17-21 on first arch; scales very small, 86-110 scales along with lateral line; lateral transverse scale rows 17-19/ 4-6.

Colour : In life, upperside grey-green, often silvery; a broad, gleaming white green band along flank.

Geographical Distribution : India : Brahmaputra, Ganga, Mahanadi river systems.

Elsewhere : Bangladesh, Nepal, Pakistan: Indus drainage.

Remarks : Inhabits plains and submontane regions; surface feeder and recorded as an useful larvivorous fish.

31. *Salmostoma phulo* (Hamilton)

1822. *Cyprinus phulo* Hamilton, Fishes of Ganges: 262, 384.

1999. *Salmostoma phulo*, Jayaram, Freshwater Fishes of the Indian Region : 66, Narendra Publishing House, Delhi.

Common Names : Fine-scale razor belly minnow (E); Dunnahree (H).

Diagnosis : D iii 7; A iii 17-19; P i 12; V i 7.

Body elongate and compressed; mouth oblique, lower jaw length about 2 times in head length, with a prominent symphyseal process; gillrakers 13-16 on first arch; scales small, 99-112 scales along the lateral line; lateral transverse scale rows 12-15 between the lateral line and base of dorsal fin.

Colour : In life, silvery with a bright silvery lateral band.

Geographical Distribution : India : Brahmaputra and Ganga river systems.

Elsewhere : Bangladesh.

Remarks : This species inhabits streams, ponds, large water reservoir and also inundated fields and attains a length of 12 cm approximately.

32. *Chela cachius* (Hamilton)

1822. *Cyprinus (Chela) cachius* Hamilton, Fishes of Ganges : 259, 384.

1999. *Chela cachius*, Jayaram, Freshwater Fishes of the Indian Region : 73, Narendra Publishing House, Delhi.

Common Names : Silver hatchet Chela (E), Kachni (H).

Diagnosis : D ii 7-8; A ii-iii 19-23; P i 8-11; V i 5-6.

Body deep and greatly compressed, depth 3.2 to 4.6 times in standard length; abdomen keeled only behind pelvic fins; cleft of mouth not extends below anterior edge of eye; outer ray of pelvic fin strongly produced and extends up to posterior third of anal fin; lateral line complete, with 51- 56 scales.

Colour : In life, silvery with a brownish lateral band, dorsal and caudal fins yellowish; (preserved specimens show narrow black streak running from upper angle of gill-opening and extending nearly to caudal fin).

Geographical Distribution : India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan.

Remarks : Due to its small size and beautiful *Colour* ation it is used for ornamental purpose in the aquaria. In many places this species is used as a bait for mahseer, *Channa* and other large carnivorous fishes.

33. *Chela laubuca* (Hamilton)

1822. *Cyprinus (Chela) laubuca* Hamilton, Fishes of Ganges : 260, 384.

1999. *Chela laubuca*, Jayaram, Freshwater Fishes of the Indian Region : 73, Narendra Publishing House, Delhi.

Common Names : Indian grass-barb, Indian hatchet fish (E); Dendula, Dennahrah (H).

Diagnosis : D ii 8-10; A ii 17-22; P i 8-11; V i 6.

Body deep and greatly compressed, depth 2.5 to 4.1 times in standard length; abdomen keeled only between and behind pelvic fins; cleft of mouth not extends to front edge of eye; outer pelvic fin-ray strongly produced; lateral line complete, with 31-37 scales.

Colour : In life, silvery with golden vertical stripes; 2 black marks, one at the base of caudal and the other at the base of pectoral.

Geographical Distribution : India : Andhra Pradesh, Assam, Chhatishgarh, Madhya Pradesh, Orissa, West Bengal.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : Although not comparable to the cyprinodonts, this species is an useful substitute and is of fair quality for larvicidal work (Silas, 1958). Its small size and beautiful body colour and also hardness consider as aquarium fish.

2. Family BALITORIDAE

Subfamily NOEMACHEILINAE

34. *Noemacheilus denisonii denisonii* Day

1867. *Noemacheilus denisonii* Day, *Proc. Zool. Soc. Lond.*, 287.

N.B. Banarescu & Nalbant (1968) have listed material from Rihand River and Orissa as belonging to this species.

1991. *Noemacheilus denisonii denisonii*, Menon, *Rec. zool. Surv. India, Occ. Paper No.*, 175 : 170.

Common Names : None recorded.

Diagnosis : D iii 8; A ii-iii 5; P i 9-10; V i 6.

Body of uniform depth, 4.7 to 6.7 times in standard length; eyes small, not visible from underside of head; mouth semicircular, lower lip furrowed and interrupted in middle; barbels well developed, maxillary extends to the opercle, rostral pairs shorter; dorsal fin inserted midway between snout tip and caudal fin base or slightly nearer to snout tip; caudal fin deeply emarginate, lobes rounded; lateral line incomplete, ending in front of dorsal fin or slightly longer.

Colour : In life, body marked with varying number of brown bands from dorsal to ventral surface of body, the bands are broader than light interspace, better marked behind dorsal fin; a blackish band at base of caudal fin and a blackish spot at base of dorsal fin present; dorsal and caudal fins with varying rows of well marked brownish spots.

Geographical Distribution : Peninsular India, Chhotanagpur plateau of Jharkhand and Bastar district of Chhatisgarh.

Remarks : This subspecies distinguished from *N. denisoni dayi* by bands with wider interspaces in the body. Endemic.

35. *Noemacheilus denisoni dayi* Hora

1935. *Noemacheilus dayi* Hora, *Rec. Ind. Mus.*, 37 : 57.

1991. *Noemacheilus denisonii dayi*, Menon, *Rec. zool. Surv. India, Occ. Paper No.*, 175 : 170.

Common Names : None recorded.

Diagnosis : D iii 8; A ii 5; P i 10; V i 6.

Body of uniform depth, 5.3 to 7.3 times in standard length; eyes small, not visible from underside of head; mouth semicircular, lips fleshy, lower lip interrupted; barbels well developed, thread like, as long as eye diameter; dorsal fin inserted equidistant between

snout tip and base of caudal fin; pelvic fin touching anal opening or close to it; caudal fin deeply emarginated; scales small, imbricate posteriorly; lateral line incomplete, ending at origin to middle of dorsal fin.

Colour : In life, body with 12-13 broad vertical bands with an equal number of narrow pale interspaces; a black band at base of caudal fin and a blackish spot at base of dorsal fin origin present; dorsal fin with two rows and caudal fin with four rows of well marked spots.

Geographical Distribution : Peninsular India, Chhotanagpur plateau and Bastar district of Madhya Pradesh.

Remarks : Body markings narrower in *dayi* and wider in *danisoni*.

36. *Noemacheilus botia* (Hamilton)

1822. *Cobitis botia* Hamilton, Fishes of Ganga : 350, 394.

1991. *Noemacheilus botia*, Menon, *Rec. zool. Surv. India, Occ. Paper No.*, 175 : 180.

Common Names : Striped loach (E)

Diagnosis : D iii 9-11; A iii 5; P i 11; V i 7.

Body slender, depth 4.5 to 5.9 times in standard length; eyes moderate, not visible from underside of head; mouth semicircular; upper lip uninterrupted, but lower lip interrupted in middle; barbels 3 pairs, well developed, maxillary pair extending to posterior margin of the orbit; dorsal fin inserted nearer to snout tip than base of caudal fin; caudal fin slightly emarginated; lateral line complete; scales conspicuous and imbricate.

Colour : In life, greyish with 10 to 14 short vertical bars, descending below lateral line, interrupted in young; broken up into patches and scattered irregularly on flanks in adults; a blank ocellus on upper base of caudal fin; Caudal fin with five to seven posteriorly directed V- shaped dark bands.

Geographical Distribution : India : Northern region in Brahamaputra and Ganga Basin.

Elsewhere : Pakistan : Indus basin.

Remarks : This species inhabits in small streams with gravelly or sandy bed and of no interest to fisheries.

37. *Oreonectes evezardi* (Day)

1878. *Noemacheilus evezardi* Day, Fishes of India : 613, pl. 153, fig. 11.

1999. *Oreonectes evezardi*, Jayaram, Freshwater Fishes of the Indian Region : p. 205, fig. 100 A & B, Narendra Publishing House, Delhi.

Common Names : Loach (E)

Diagnosis : D iii 7; A ii 5; P i 10-11; V i 6-7.

Body subcylindrical, loach like and of almost uniform depth; eyes minute, not visible from underside of head; nostrils closer to eye than to tip of snout and barbel like; mouth semicircular; lips fleshy and moderately furrowed, both lips interrupted in middle; well developed barbels, nasal pair extends to beyond middle of eye; caudal fin rounded; scales small; lateral line short, ending above middle of pectoral fin.

Colour : In life, greenish or yellowish with 9 to 18 (usually 14 or 15) brown vertical stripes from back to ventral side; big round spots on head; a vertical dark stripe at base of caudal fin; a small black spot at base of dorsal fin origin.

Geographical Distribution : Western Ghats, Krishna and Godavari basins, Satpura range, Panchmari hills.

Remarks : This species is recorded from the Kutumsar cave, Kangerghati National Park. It has no interest to fisheries. Endemic.

Family COBITIDAE

Subfamily COBITINAE

38. *Lepidocephalus guntea* (Hamilton)

1822. *Cobitis guntea* Hamilton, Fishes of Ganges : 353, 394.

1999. *Lepidocephalus guntea*, Jayaram, Freshwater Fishes of the Indian Region : p. 216, fig. 107A, Narendra Publishing House, Delhi.

Common Names : Guntea loach (E).

Diagnosis : D ii-iii 6-7; A ii-iii 5; P i 6-7; V i 6-7.

Body elongate, low, slightly compressed anteriorly and strongly posteriorly, depth 5.8 to 6.8 times in total length; mouth inferior; a suborbital spine present; barbels 3 pairs; mental lobe well developed and produced into one or two projections; dorsal fin origin slightly behind level of origin of pelvic fins, nearer to caudal fin than to snout tip; scales small, imbricate; scales on head in patches below and behind eyes and upper part of operculum; scales extends anteriorly beyond isthmus on ventral side of head; 25 to 30 rows of scales between the back of body and base of anal fin; caudal fin convex or cut square with rounded corners.

Colour : In life, colouration of the species is highly variable with age and sex; in young, yellowish with a dull pale streak which extends from snout to a small black blotch at base of caudal fin; above or below this line 10-12 irregular dark blotches which tend to fuse with one another with age; fins specially dorsal and caudal, with rows of dark spots.

Geographical Distribution : Northern India, Ganga and Brahmaputra river systems.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan : Indus valley.

2. Order SILURIFORMES

4. Family BAGRIDAE

39. *Aorichthys aor* (Hamilton)

1822. *Pimelodus aor* Hamilton, Fishes of Ganges : 205, 379, pl. 20, fig. 68.

1999. *Aorichthys aor*, Jayaram, Freshwater Fishes of the Indian Region : 241, fig. 119, Narendra Publishing House, Delhi.

Common Names : Long-whiskered Catfish (E); Kanti, Daryai tengara (H).

Diagnosis : D I 7; A iii-iv 8-10; P I 9-10; V i 5; C 17.

Body elongate and compressed; depth 4 to 5.2 times in standard length; snout broad, depressed and rounded; mouth subterminal, width about $\frac{3}{5}$ th of its length; barbels 4 pairs, the maxillary pair extends to base of caudal fin or even slightly beyond; dorsal fin spine finely serrated on its posterior edge; adipose fin long, base about 2 times in rayed dorsal fin; caudal fin forked with pointed lobes.

Colour : In life, dark bluish, gradually fading to whitish on flanks and belly; a small black spot often present on basal bone of dorsal fin and a well defined black spot almost equal to eye diameter on posterior lower end of adipose dorsal fin.

Geographical Distribution : India : The Ganga, Brahmaputra, Cauvery, Madanadi, Narmada, Tapti, Yamuna river systems.

Elsewhere : Bangladesh, Myanmar, Pakistan.

Remarks : It is a common giant food fish.

40. *Aorichthys seenghala* (Sykes)

1841. *Platystoma seenghala* Sykes, Trans. Zool. Soc. Lond., 2 : 371, pl. 65, fig. 2.

1999. *Aorichthys seenghala*, Jayaram, Freshwater Fishes of the Indian Region : p. 241, Narendra Publishing House, Delhi.

Common Names : Giant River Catfish (E); Gagari, Singara, Tengara (H)

Diagnosis : D I 7; A iii 8-9; P I 9; V i 5; C 19-21.

Body elongate and compressed, depth 5 to 7 times in standard length; snout broad and spatulate; mouth subterminal, width about $\frac{1}{3}$ rd of head length; barbels four pairs, extend

posteriorly to pelvic fins or beyond to anal fin; dorsal spine weakly serrated on its posterior edge; adipose fin base short, about as long as rayed dorsal fin base; caudal fin forked, equal to head, upper lobe longer; complete straight lateral line.

Colour : In life, brownish grey on back, silvery on flanks and belly; a dark rounded black spot on hind border of adipose dorsal fin.

Geographical Distribution : India : Cauvery, Ganga, Godavari, Krishna, Yamuna river systems.

Elsewhere : Bangladesh, Pakistan.

Remarks : It attains maximum length up to 1.5m and provides good sport.

41. *Rita chrysea* Day

1877. *Rita chrysea* Day, Fishes of India : 455, pl. 104, fig. 1.

1999. *Rita chrysea*, Jayaram, Freshwater Fishes of the Indian Region : 227, Narendra Publishing House, Delhi.

Common Names : Mahanadi Rita (E)

Diagnosis : D I 6-7; A ii 8-10; P I 9-10; V i 6-7.

Body elongate; head depressed; occipital process subcutaneous, ending to predorsal plate; mouth transverse; teeth on prevomer molariform, in a single semioval patch; barbels three pairs, maxillary barbels extend to base of pectoral fins, others shorter; dorsal spine strong, the spine with feeble teeth over posterior margin and also often over anterior margin; lateral line complete and slightly arched above pectoral fin.

Colour : In life, lead-grey above, whitish below, and with a yellowish tinge along orbital rims.

Geographical Distribution : India : Mahanadi river system, Orissa, Madhya Pradesh.

Remarks : This catfish is relatively smaller than other species of *Rita*. Endemic.

42. *Rita rita* (Hamilton)

1822. *Pimelodus rita* Hamilton, Fishes of Ganges : 165, 376, pl. 24, fig. 53.

1999. *Rita rita*, Jayaram, Freshwater Fishes of the Indian Region : 227, fig. 112, Narendra Publishing House, Delhi.

Common Names : Rita (E); Ritha (H).

Diagnosis : D I 6; A ii 10-11; P I 10; V i 6-7;

Body elongated, head depressed, occipital process subcutaneous, extends to predorsal plate; mouth transverse, teeth on prevomer molariform and villiform, in two separate and fairly wide apart patches; barbels 3 pairs, maxillary barbels extends beyond operculum; dorsal spine strong, serrated posteriorly in upper only; lateral line straight and complete.

Colour : In life, lurid-green above and on flanks, dull white on abdomen.

Geographical Distribution : Most rivers of northern India.

Elsewhere : Afghanistan, Bangladesh, Myanmar, Pakistan : Indus plain and adjoining hilly areas.

Remarks : Inhabits freshwater and also tidal waters and grows about 150 cm in length.

43. *Mystus bleekeri* (Day)

1846. *Bagrus keletius* (nec Valenciennes) Bleeker, *Nat. Gen. Arch. Ned. India*, 3(2) : 135.

1864. *Macrones keletius* Gunther, (nec Valenciennes), *Cat. Fish. Brit. Mus.*, 5 : 84

1877. *Macrones bleekeri* Day, *Fish India* : 451, pl. 101, fig. 1.

1999. *Mystus bleekeri*, Jayaram, *Freshwater Fishes of the Indian Region* : p. 235, fig. 118D, Narendra Publishing House, Delhi.

Common Names : Day's *Mystus* (E); Palwa, Tengara (H).

Diagnosis : D I 7-8; A iii 6-7; P I 9-10; V i 5.

Body elongate and compressed, depth 3.8 to 4.3 times in standard length; head depressed; occipital process twice as long as broad at its base, extends to basal bone of dorsal fin; median longitudinal groove on head shallow, extending to base of occipital process; barbels 4 pairs, maxillary barbels reaching anal fin; dorsal spine finely serrated or entire; adipose fin short; inserted after an interspace from rayed dorsal fin; caudal fin forked.

Colour : In life, leaden or brown above, lighter below, often with a brown band along the flank; upper half of dorsal fin darkish; anal fin with a dark band; a dark blotch on base of caudal fin.

Geographical Distribution : Northern India, southern limit up to Mahanadi river.

Elsewhere : Bangladesh, Nepal, Pakistan : Indus river system.

44. *Mystus cavasius* (Hamilton)

1822. *Pimelodus cavasiuss* Hamilton, *Fishes of Ganges* : 203, 379, pl.11, fig. 67.

1999. *Mystus cavasiu*, Jayaram, *Freshwater Fishes of the Indian Region* : 235, fig. 118C, Narendra Publishing House, Delhi.

Common Names : Gangetic mystus (E); Palwa, Tenguah, Kavasi (H).

Diagnosis : D I 7; A iv 7-9; P I 8; V i 5.

Body elongate and compressed, depth 4 to 4.5 times in standard length; head conical; occipital process narrow, extends to basal bone of dorsal fin; median longitudinal groove on head extends to base of occipital process; mouth terminal, transverse, upper jaw longer; barbels 4 pairs, maxillary barbels extend (in adult) posteriorly to beyond anal fin; dorsal spine weak; adipose fin large, inserted close behind with base of rayed dorsal fin; caudal fin deeply forked.

Colour : In life, greyish with a more or less well defined mid-lateral longitudinal stripe; generally a black spot covering the basal bone of dorsal fin present; dorsal and caudal fin dusky.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Pakistan, Thailand : Salween Basin.

Remarks : It is a very common food fish in the Indian region. Its pectoral spine cause painful wound.

45. *Mystus tengara* (Hamilton)

1822. *Pimelodus tengara* Hamilton, Fishes of Ganges : 183, 377. pl. 23, fig. 60.

1999. *Mystus tengara*, Jayaram, Freshwater Fishes of the Indian Region : 236, Narendra Publishing House, Delhi.

Common Names : Tengara mystus (E); Tengara, Kuttahrah (H).

Diagnosis : D I 7; A ii-iii 9-10; P I 8; V i 5.

Body elongate and somewhat compressed, depth 2.5 to 3.3 times in standard length; head depressed; occipital process about 3 times as long as broad, extending to basal bone of dorsal fin; median longitudinal groove on head reaching the base of occipital process; mouth terminal, transverse, upper jaw longer; barbels 4 pairs, maxillary barbels extend to base of pelvic fin; dorsal spine serrated on its posterior edge; adipose fin long, inserted close behind rayed dorsal fin; caudal fin forked with upper lobe longer.

Colour : In life, delicate greenish to bright yellow, back slightly darkened, flanks and belly white, 4 or 5 wavy dark brown to green black longitudinal bands on flanks which gradually taper posteriorly and disappear entirely; a dark blotch over pectoral fin.

Geographical Distribution : Chiefly throughout northern India.

Elsewhere : Bangladesh, Pakistan.

Remarks : This species is very much similar to *Mystus vittatus* in the colour pattern but may be clearly distinguished by the median longitudinal groove on head which reaches the base of occipital process. The young of *M. vittatus* and adult of *M. tengara* are very difficult to separate.

46. *Mystus vittatus* (Bloch)

1797. *Silurus vittatus* Bloch, *Ichthyol. Hist. Nat.*, 11 : 40, pl. 371, fig. 2.

1999. *Mystus vittatus*, Jayaram, *Freshwater Fishes of the Indian Region* : 236, pl. XI, fig. 4, Narendra Publishing House, Delhi.

Common Names : Striped dwarf Catfish (E), Palwa, Tengra (H).

Diagnosis : D I 7; A ii-iii 7-9; P I 9; V i 5.

Body elongate and somewhat compressed, depth 3.8 to 4.2 times in standard length; head depressed; occipital process about 3 times as long as broad at its base, reaching basal bone of dorsal fin; mouth terminal, transverse and the upper jaw longer; median longitudinal groove on head short, not reaching to base of occipital process; barbels 4 pairs, maxillary pair extends posteriorly beyond pelvic fins, often to end of anal fin; dorsal spine weak; adipose fin small, inserted much behind rayed dorsal fin, but in advance of anal fin; caudal fin forked.

Colour : In life, very variable according to age; generally grey-silvery with several pale blue or dark brown to deep black longitudinal bands (total about five) on flank; fins often with dark tips.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.

Remarks : This is one of the most common small sized catfish in the Indian region which inhabits in ponds, lakes, rivers *etc.*

5. Family SILURIDAE

47. *Ompok pabda* (Hamilton)

1822. *Silurus pabda* Hamilton, *Fishes of Ganges* : 150, 374, pl. 25, fig. 47.

1999. *Ompok pabda*, Jayaram, *Freshwater Fishes of the Indian Region* : 244, fig. 121B, Narendra Publishing House, Delhi.

Common Names : Pabdah catfish (E); Tambulivapabda (H).

Diagnosis : D 4-5; A ii 48-54; P I 11-13; V i 6-7.

Body elongate and compressed; eyes moderate; mouth large and oblique; barbels two pairs; maxillary pairs extend usually to as far as middle of pectoral fin, sometimes up to tip; anal fin long, inserted usually opposite to origin of dorsal fin; dorsal fin short, without any spine, originate nearer to tip of snout than to base of caudal fin; pectoral spine moderately strong, serrated on its inner margin in males, generally feeble in females; caudal fin forked, lobes pointed.

Colour : In life, silvery grey with a tinge of yellow, dark on back, fading to dull grey on belly, often two dark lateral bands on body, a dark oval shoulder spot on lateral line.

Geographical Distribution : India: Brahmaputra and Ganga river systems.

Elsewhere : Bangladesh, Myanmar : Indawgyl Lake, Pakistan.

Remarks : This species is an esteemed food-fish and inhabits rivers, tanks and ponds and attains a length of about 17 cm.

48. *Ompok bimaculatus* (Bloch)

1797. *Silurus bimaculatus* Bloch, *Ichthyol. Hist. nat. des. Poiss.*, **11** : 17, pl. 364.

1999. *Ompok bimaculatus*, Jayaram, *Freshwater Fishes of the Indian Region* : 244, fig. 121A, Narendra Publishing House, Delhi.

Common Names : Indian butter catfish (E); Chechera, Papta, Gugli (H).

Diagnosis : D 4; A ii-iii 57-58; P I 12-14; V i 7-8.

Body elongate and strongly compressed; eyes moderate; mouth large and oblique; vomerine teeth in two oval patches; barbels two pairs; maxillary barbels extend to or slightly beyond anal fin origin; anal fin long, inserted well behind dorsal fin; dorsal fin short, without any spine and origin considerably nearer to snout tip than to caudal fin base; Pectoral fin with a moderately strong spine, serrated or entire; caudal fin deeply forked, with pointed lobe.

Colour : In life, silvery short with purple, dorsally dark grey-green to brownish; a large dusky spot on shoulder on lateral line; a small black spot on caudal peduncle just above lateral line.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Malay, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam, Yunnan.

Remarks : A tasty food fish, inhabits rivers, tanks and ponds.

49. *Wallago attu* (Schneider)

1801. *Silurus attu* Schneider, *Syst. Ichth.*: 378, pl. 75.

1999. *Wallago attu*, Jayaram, *Freshwater Fishes of the Indian Region* : p. 246, fig. 122, Narendra Publishing House, Delhi.

Common Names : Fresh water shark (E); Paran, Boyari (H).

Diagnosis : D 5; A iii 74-93; P I 13-15; V i 7-9.

Body elongate and compressed; eyes small; mouth wide, gape extends posteriorly to beyond eyes; dorsal profile nearly straight; lower jaw prominent; barbels two pairs; maxillary pair long, extend posteriorly to well beyond origin of anal fin; dorsal fin short, spineless, origin above or a little in advance of pelvic fin origin; pectoral fin spine moderately strong and finely serrated; caudal fin deeply forked, its upper lobe longer.

Colour : In life, uniformly silvery grey above, with sides of body dull white; anal and caudal fins somewhat dusky.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Java, Kampuchea, Malay Peninsula, Myanmar, Pakistan, Sri Lanka, Sumatra, Thailand, Vietnam.

Remarks : A large, voracious, predatory cat fish, thrives well in rivers and tanks specially in jheels with grassy margin.

6. Family SCHILBEIDAE**Subfamily AILIINAE****50. *Ailia coila* (Hamilton)**

1822. *Malapterurus coila* Hamilton, *Fishes of Ganges* : 158, 375.

1999. *Ailia coila*, Jayaram, *Freshwater Fishes of the Indian Region* : 251, fig. 127A, Narendra Publishing House, Delhi.

Common Names : Gangetic ailia (E); Batansi, Patasi (H).

Diagnosis : A 58-75; P I 14-16; V i 5.

Body elongate, ventral profile not prominently arched; mouth inferior, cleft extends below to middle of the orbit; upper jaw longer; barbels 4 pairs, well developed; dorsal fin absent while a small posterior adipose dorsal fin present; pectoral spine slender, finely serrated along its inner edge; pelvic fin small; anal fin long; caudal fin deeply forked, lower lobe longer.

Colour : In life, silvery; fins often greyish at their edges; caudal fin often edged with black.

Geographical Distribution : Rivers of northern India: Brahmaputra, Indus, Ganga, Yamuna and Mahanadi.

Elsewhere : Bangladesh, Nepal, Pakistan.

Remarks : This species inhabits freshwater rivers and connected waters and is much esteemed as food and lives in shoals.

7. Family HETEROPNEUSTIDAE

51. *Heteropneustes fossilis* (Bloch)

1794. *Silurus fossilis* Bloch, *Naturgesch. ausl. Fische*, 8 : 46, pl. 370, fig. 2.

1999. *Heteropneustes fossilis*, Jayaram, *Freshwater Fishes of the Indian Region* : 305, fig. 156A, Narendra Publishing House, Delhi.

Common Names : Stinging Catfish (E); Singee, Bitchu (H).

Diagnosis : D 6-7; A 60-70; P I 7; V i 5.

Body elongate, subcylindrical to pelvic fin base, compressed behind; head depressed; occipital process not exceeding to base of dorsal fin; mouth small and terminal; barbels 4 pairs, well developed; dorsal fin short, inserted usually above tip of pectoral fin; pectoral fin with a strong spine, serrated along its inner edge and externally with few serrations anteriorly, about 2/3rd as long as head; anal fin base long and separated by a distinct notch from caudal fin.

Colour : In life, yellow or leaden or dark purplish brown above, lighter below, usually with two longitudinal yellowish bands; young reddish in colour

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.

Remarks : As food the flesh is esteemed for its invigorating qualities. The strong and sharp pectoral spine may cause painful wounds and bleeding if not held properly.

8. Family CLARIIDAE

52. *Clarias batrachus* (Linnaeus)

1758. *Silurus batrachus* Linnaeus, *Systema Naturae*, 1, ed. 10: 305.

1999. *Clarias batrachus*, Jayaram, *Freshwater Fishes of the Indian Region* : 302, fig. 155, Narendra Publishing House, Delhi.

Common Names : Magur (E); Mangur, Manguri (H).

Diagnosis : D 70-76; A 45-58; P I 8-11; V i 5.

Elongated body with moderately depressed head; occipital process angular and narrow and distance from dorsal fin base 4.5 to 6 times in head length; mouth terminal, teeth in villiform bands on jaws; barbels 4 pairs, the maxillary pairs considerably extend beyond base of pectoral fin while the nasal pair extends to gill-opening; dorsal fin inserted slightly anterior to tip of pectoral fins; pectoral spine strong, often rough externally.

Colour : In life, brownish to greenish blue, the back dark with a greenish lustre; flanks and belly pale brown to delicate reddish, often with numerous pale to white spots on flanks.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Borneo, Java, Malacca, Malaya, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Sumatra, Thailand.

Remarks : Highly priced for its esteemed rejuvenating vigor and taste; found in all types of waters but more so in swampy waters.

3. Order PERCIFORMES

9. Family CHANNIDAE

53. *Channa marulius* (Hamilton)

1822. *Ophiocephalus marulius* Hamilton, Fishes of Gange : 65, 367, pl. 17, fig. 9.

1999. *Channa marulius*, Jayaram, Freshwater Fishes of the Indian Region : 446, pl. XVIII, fig. 1, Narendra Publishing House, Delhi.

Common Names : Giant Snake head (E); Bhor (H).

Diagnosis : D 45-55; A 28-36; P 16-18; V 6.

Body elongate and fairly rounded in cross section; eyes moderate; mouth large; lower jaw with 7-18 canines behind a single row of villiform teeth; teeth on vomer but absent on palatines; maxilla extending below half of the orbit; pelvic fin about 75% of pectoral fin length; caudal fin rounded; 10 scale rows between preoperculum angle and hind border of orbit; predorsal scales 16; 60-70 scales in lateral series.

Colour : In life, above lateral line greyish green, with 5 or 6 dark oval blotches on flank; distinct white spots scattered on body; caudal fin dark with white spots arranged in form of discontinuous vertical bands; a distinct pale-edged ocellus at base of caudal fin towards upper side.

Geographical Distribution : Throught India.

Elsewhere : Bangladesh, China, Myanmar, Pakistan, Sri Lanka, Thailand.

54. *Channa orientalis* Bloch & Schneider

1801. *Channa orientalis* Bloch & Schneider, *Syst. Ichth.* p. 496, pl. 90, fig. 2.

1999. *Channa orientalis*, Jayaram, *Freshwater Fishes of the Indian Region* : 446, pl. XVIII, fig. 2, Narendra Publishing House, Delhi.

Common Names : Asiatic Snakehead (E); Chainga (H).

Diagnosis : D 32-37; A 20-23; P 14-15; V 6.

Body elongate and fairly rounded in cross-section; eyes moderate; mouth large; lower jaw with 10-20 canines behind a single row of villiform teeth; teeth on vomer and palatine; pectoral fins extends to anal fin; pelvic fin, if present, less than 50% of pectoral fin length; caudal fin rounded; 4 or 5 scale rows between preopercular angle and posterior border of orbit; predorsal scales 12; scales in longitudinal series 40-50.

Colour : In life, dorsal side and flanks green, ventral side pale; a row each of dark oblique bands run above and below lateral line; pectoral fins with a series of distinct alternating blue and pale orange vertical bands; young often with a large ocellus on last dorsal finrays.

Geographical Distribution : Throughout India.

Elsewhere : Afghanistan, Bangladesh, Borneo, Iran, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand.

Remarks : This species includes forms of with and without pelvic fins. Forms with pelvic fins were designated as *Channa gachua* and forms without pelvic fins as *Channa orientalis* until De witt (1960) considered the absence of pelvic fins as an anomalous character. But Pethiyagoda (1991) has adduced evidence to show that *C. gachua* and *C. orientalis* are two separate species.

55. *Channa punctatus* (Bloch)

1793. *Ophiocephalus punctatus* Bloch, *Naturges ausland Fische*, (7) : 139, pl. 358.

1999. *Channa punctatus*, Jayaram, *Freshwater Fishes of the Indian Region* : p. 446, pl. XVIII, fig. 3, Narendra Publishing House, Delhi.

Common Names : Spotted snakehead (E); Phool-dhok (H).

Diagnosis : D 28-33; A 20-23; P 15-18; V 6.

Body elongate and fairly rounded in cross-section; eyes moderate; mouth large; lower jaw with 3-6 canines behind a single row of villiform teeth, villiform teeth on vomer and palatines; pectoral fins extend to anal fin; pelvic fin about 75% of pectoral fin length; caudal fin rounded; 5 scale rows between preopercular angle and posterior border of orbit; predorsal scales 12; scales 37-40 in lateral series.

Colour : In life, varies from black to light green on dorsal side and flanks; ventral side white to pale yellow; a dark stripe or band along the side of head and several short cross bands descending from back.

Geographical Distribution : Throughout India.

Elsewhere : Afghanistan, Bangladesh, China, Malay, Myanmar, Nepal, Pakistan, Polynesia, Sri Lanka.

Remarks : Prolific breeder, breeds almost throughout the year by building circular nets between marginal weeds. This species is very much common throughout the plains of India.

56. *Channa striatus* (Bloch)

1793. *Ophiocephalus striatus* Bloch, *Naturges ausland Fische*, (7) : 141, pl. 359.

1999. *Channa striatus*, Jayaram, *Freshwater Fishes of the Indian Region* : 446, pl. XVIII, fig. 4, Narendra Publishing House, Delhi.

Common Names : Striped or Banded Snakehead (E); Soura (H).

Diagnosis : D 37-46; A 23-29; P 15-17; V 6.

Body elongate and fairly rounded in cross-section; eyes moderate; mouth large; lower jaw longer with 4-7 canines behind a single row of villiform teeth; villiform teeth on vomer and palatines; caudal fin rounded; 9 scale rows between preopercular angle and posterior border of orbit; pre-dorsal scales 18-20; scales 50-57 in lateral series; cephalic pits multiple;

Colour : In life, adults grey-green to black-green on upper side; belly usually pure white; a dark band runs obliquely upwards from snout to edge of gill cover; caudal fin dark, with two distinct pale vertical bands on its base.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Borneo, South China, Malay Archipelago, Pakistan, Philippines, Sri Lanka, Thailand.

Remarks : Economically important food fish.

10. Family ANABANTIDAE

57. *Anabas testudineus* (Bloch)

1795. *Anthias testudineus* Bloch, *Naturges ausland Fische*, (6) : 121, pl. 322.

1999. *Anabas testudineus*, Jayaram, *Freshwater Fishes of the Indian Region* : 435, fig. 224, Narendra Publishing House, Delhi.

Common Names : Climbing perch (E); Kobai, Kawai (H).

Diagnosis : D XVI- XVIII 8-10; A VIII- XI 9-11; P i 13-14; V I 5.

Body elongate and moderately deep; mouth fairly large; teeth villiform on jaws; opercle and preopercle serrated; bases of soft dorsal, soft anal and caudal fin scaly; scales large, 21-29 in lateral series; lateral line interrupted.

Colour : In life, adults greenish to dark grey on dorsal side and flanks, fading to pale yellow on belly; body with 4 wide cross bands in juveniles; a black spot on caudal base invariably present in juveniles but generally fades with age.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Borneo, Malay Archipelago, Myanmar, Philippines, Singapore, Sri Lanka.

Remarks : This species inhabits fresh and brackish waters. In its natural habitat this fish can propel itself over dry land for great distance at a stretch.

11. Family GOBIIDAE

Subfamily GOBIINAE

58. *Glossogobius giuris* (Hamilton)

1822. *Gobius giuris* Hamilton, *Fishes of Ganges* : 51, pl. 33, fig. 15.

1999. *Glossogobius giuris*, Jayaram, *Freshwater Fishes of the Indian Region* : 414, pl. XVII, fig. 3, Narendra Publishing House, Delhi.

Common Names : Tank Goby (E).

Diagnosis : D VI + I 8-9; A I 7-8; P i 16-21; V i 5.

Body elongate somewhat compressed ; eyes small; snout pointed; lower jaw longer, the maxilla extends to below anterior margin of the orbit; tongue bilobate, branchiostegal membranes attached to sides of isthmus; two dorsal fins separated by a short interspace; pelvic fins united, oblong; caudal fin oblong to rounded.

Colour : In life, yellowish brown with five dark blotches on flank; dorsal, pectoral and caudal fins mottled with dark spots, spots darkest along spine of second dorsal fin.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal , Pakistan, Sri lanka, wide range from East coast of Africa to Japan, Australia and South Pacific.

Remarks : This species inhabits primarily fresh water and also estuaries and the sea.

4. Order MASTACEMBELIFORMES

12. Family MASTACEMBELIDAE

59. *Macrogathus aral* (Bloch and Schneider)

1801. *Rhynchobdella aral* Bloch and Schneider, *Syst. Ichth.*, p. 479, pl. 89.

1999. *Macrogathus aral*, Jayaram, *Freshwater Fishes of the Indian Region* : 358, fig. 187, Narendra Publishing House, Delhi.

Common Names : One-stripe spinyeel (E); Gainchi, Latta (H).

Diagnosis : D XVI- XXIII 44-45; A III 44-52; P 19-24; C 15.

Body elongate; rostrum larger with concave ventral surface lined with 14-28 paired tooth plates; no spines on preorbital or preoperculum bones; mouth very small, not extending to below posterior nostrils; dorsal fin inserted far behind tip of pectoral fin; caudal fin distinctly separated from dorsal and anal fins.

Colour : In life, dorsal surface brownish or olive, marbled and yellowish below; body with two broad pale longitudinal bands extending its entire length, one dorsal to and one ventral to lateral line; 3-11 ocelli at its base often present; dorsal and caudal fins with numerous fine streaks.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

Remarks : This species is very common in lowland habitat and at moderate elevations in all the larger river systems of the Indian subcontinent.

60. *Macrogathus pancalus* Hamilton

1822. *Macrogathus pancalus* Hamilton, *Fishes of Ganges* : 30, 364, pl.22, fig.7.

1999. *Macrogathus pancalus*, Jayaram, *Freshwater Fishes of the Indian Region* : 358, Narendra Publishing House, Delhi.

Common Names : Striped spiny-eel (E); Gaincha, Malga, Patya (H).

Diagnosis : D XXIV-XXVI 30-42; A III 31-46; P 17-19; C 12.

Body eel-like and slightly compressed; rostrum rounded in cross-section, devoid of tooth plates; preopercle with 2-5 spines; preorbital spine strong and pierces skin; mouth small; a single, long dorsal fin with 24-26 stumpy free spines, commencement of soft dorsal fin behind anal fin origin; anal fin with 3 spines; dorsal and anal fins separate from caudal fin.

Colour : In life, greenish-olive along back, yellowish on belly, with many yellowish-white spots on flanks and often striped with dark brown vertical stripes; soft dorsal, anal, pectoral and caudal fins yellow, with numerous minute black spots.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Pakistan.

Remarks : This beautiful species inhabits slow and shallow waters in mainly the plains, never available in altitude of 366m above.

61. *Mastacembelus armatus* (Lacepede)

1800. *Macrogathus armatus* Lacepede, *Hist. nat. poiss.*, 2 : 286.

1999. *Mastacembelus armatus*, Jayaram, *Freshwater Fishes of the Indian Region* : 359, fig. 188, Narendra Publishing House, Delhi.

Common Names : Tire-track spiny eel (E); Bami, Baam (H).

Diagnosis : D XXXII-XL 64-92; A III 64-90, P 21-27; C 14-17.

Body relatively slender; preopercle with 2 or 3 spines usually conspicuous, sometimes one or more may be embedded in skin; preorbital spine strong and usually piercing skin; cleft of mouth narrow; spinous dorsal fin inserted above middle or posterior third of pectoral fins, last dorsal spine small and hidden beneath skin; dorsal and anal fins broadly joined to caudal fin.

Colour : In life, rich brown and usually zig-zag lines, sometimes connecting to form a network but almost never extending on to abdomen; often a black band through eye continued in an undulating course along upper half of side; pectoral fins usually spotted; dorsal and anal fins usually banded or spotted.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, South China, Hainan Island, Java, Malay, Myanmar, Nepal, Pakistan, Sri Lanka, Sumatra, Thailand, Tonkin, Vietnam.

Remarks : This is the largest spiny eel, generally attains a length of 60-61cm and also common in high altitude.

5. Order. ATHERINIFORMES

13. Family BELONIDAE

62. *Xenentodon cancila* (Hamilton)

1822. *Esox cancila* Hamilton, Fishes of Ganges : 213, 380, pl. 27, fig. 70.

1999. *Xenentodon cancila*, Jayaram, Freshwater Fishes of the Indian Region : 336, fig. 176, Narendra Publishing House, Delhi.

Common Names : Freshwater garfish (E); Kankle, Kakhya, Thona (H).

Diagnosis : D 15-18; A 16-18; P 11; V 6.

Body very elongate and slightly compressed; eyes small; both jaws produced into a beak with fine rugosities; a deep median, longitudinal groove on upper surface of head; cheeks long; operculum 1.7 to 2 times in cheek; dorsal fin inserted opposite to anal fin, very nearer to caudal fin base; caudal fin truncate.

Colour : In life, greenish above, flanks green silvery, fading to whitish below; a silvery lateral band with a dark margin extend on flank of body; A series of four to five blotches (absent in young) on sides of body between pectoral and anal fins; dorsal and anal fins with dark- edged.

Geographical Distribution : Throughout India.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan: Sind, Punjab.

Remarks : This species inhabits freshwater, primarily rivers. It is an elegant surface dwelling fish and is fairly common in the Ganga-Brahmaputra system.

SUMMARY

The present study revealed 62 species of pisces under 31 genera, 13 families and 5 orders from Kangerghati, Guru Ghasidas and Sanjay National Parks. Out of 62 species 4 species are endemic.

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