

FAUNA OF KANHA TIGER RESERVE MADHYA PRADESH



**ZOOLOGICAL SURVEY OF INDIA
1995**



FAUNA OF KANHA TIGER RESERVE MADHYA PRADESH

Edited by :
The Director, Zoological Survey of India,
Calcutta.



सत्यमेव जयते

ZOOLOGICAL SURVEY OF INDIA
1995

Copyright, Government of India, 1995

Published : March, 1995

Compiled by :

R. K. Ghose, ZSI, Calcutta.

Price : Inland : Rs. 260.00

Foreign: £ 15.00 \$ 20.00

Printed at Calcutta Laser Graphics Pvt. Ltd, 71, Hari Ghosh Street, Calcutta-700006
and Published by the Director, Zoological Survey of India, Calcutta.

FOREWORD

The Kanha National Park derives its name from the old Kanha village which is encompassed by vast rolling meadows. In the 1930s, this area was divided into two sanctuaries, namely, Halon and Banjar, of 250 sq. km. and 300 sq. km. each respectively. Though one of these was subsequently disbanded, the area remained a protected zone until 1947. Depletion of tiger population in the years that followed led to the area being made an absolute sanctuary in 1952. By a special status in 1955, Kanha National Park came into being. Since then, a series of stringent conservation programmes for the protection of both the Park's flora and fauna have given Kanha its deserved reputation for being one of the finest and best administered National Parks in Asia. The same abundance of wildlife exists as in the past in this Park, which forms the core of the Kanha Tiger Reserve created in 1974 under 'Project Tiger' to envisage intensive conservation efforts to protect the ecosystem and sustain the tiger.

Scientists of the Zoological Survey of India undertook a study trip of Kanha Tiger Reserve in January-February 1991 at the instance of the Ministry of Environment, Forests and Wildlife and the responsibility assigned by the Steering Committee (Project Tiger) to this department for faunal assessment of the area. The field trip was undertaken under the leadership of Dr. R. K. Ghose, Scientist 'SD' with the assistance of Shri T. P. Bhattacharyya, Sr. Zool. Asstt. ; Shri C. K. Misra, Jr. Taxidermist ; Shri N. Prasad, Field Collector ; Shri A. K. Nag, Insect Setter (all from the Headquarters, Calcutta) and Dr. D. K. Harshey, Museum Asstt. and Shri L. E. P. Das, Driver (both from C. R. S., Z. S. I., Jabalpur).

Earlier, scientists of this department have published some interesting papers on different faunal groups of Kanha National Park. However, this volume has been specially brought out to highlight the important invertebrate and vertebrate faunal elements of Kanha Tiger Reserve, much of which have not been documented previously.

I wish to express my sincere thanks to the Director of the Tiger Project, New Delhi, the Field Director, Kanha Tiger Reserve, and his officers and staff for providing active co-operation and support to the Zoological Survey of India party in the field. My thanks are also due to Dr. R. K. Ghose for his sincere efforts in compilation of this volume within the stipulated time.

Calcutta.
March, 1995

Dr. A. K. Ghosh
Director
Zoological Survey of India

FAUNA OF KANHA TIGER RESERVE : MADHYA PRADESH

CONTENTS

	Page
Ghose, R. K.	
— Kanha Tiger Reserve : an overview	1
Chhotani, O. B.	
— Insecta : Isoptera	9
Singh, R. K.	
— Insecta : Lepidoptera	15
Tandon, S. K., Shishodia, M. S. and Dey, Anita	
— Insecta : Orthoptera	19
Gajbe, U. A.	
— Arachnida : Spiders	27
Harshey, D. K.	
— Crustacea : Ostracoda	31
Agrawal, H. P.	
— Mollusca	33
Sen, T. K.	
— Pisces	41
Chanda, S. K.	
— Amphibia	47
Sanyal, D. P. and Sur, S.	
— Reptilia	51
Ghosal, D. K.	
— Aves	63
Ghose, R. K. and Bhattacharyya, T. P.	
— Mammalia	93

KANHA TIGER RESERVE : AN OVERVIEW

INTRODUCTION

The Kanha Tiger Reserve is situated about 50 km south-east of Mandla and approximately 160 Km from Jabalpur. It is situated in the Mandla and Balaghat districts of Madhya Pradesh, near the geographic centre of India and is famous for its abundance of varieties of animals, including birds and mammals. The landscape and the valleys are open.

Some studies have been undertaken on the wildlife of Kanha and noteworthy work on the subject have been published by several authors. However, a consolidated information on the various groups of animals of this area was long needed. Realising the importance of such publication, at the instance of the Ministry of Environment, Forests and Wildlife, a study tour was taken up by the Zoological Survey of India in January-February 1991, for the faunal assessment of this Tiger Reserve. In the present communication, the results of this survey, together with information available from earlier surveys by this department, have been presented here in eleven papers, with a brief overview of relevant aspects as location, area, topography, climate, geology, soil, vegetation, fauna, etc. to act as a general introduction to all the contributions that follows.

The survey team conducted studies at Kanha (12 to 19 January 1991), Mukki (20-26 January 1991) and Supkhar (27 to 30 January 1991), and at Motinala (31 January to 4 February 1991) which is situated outside the Tiger Reserve area. Several trips were also made in the adjoining areas of these camps.

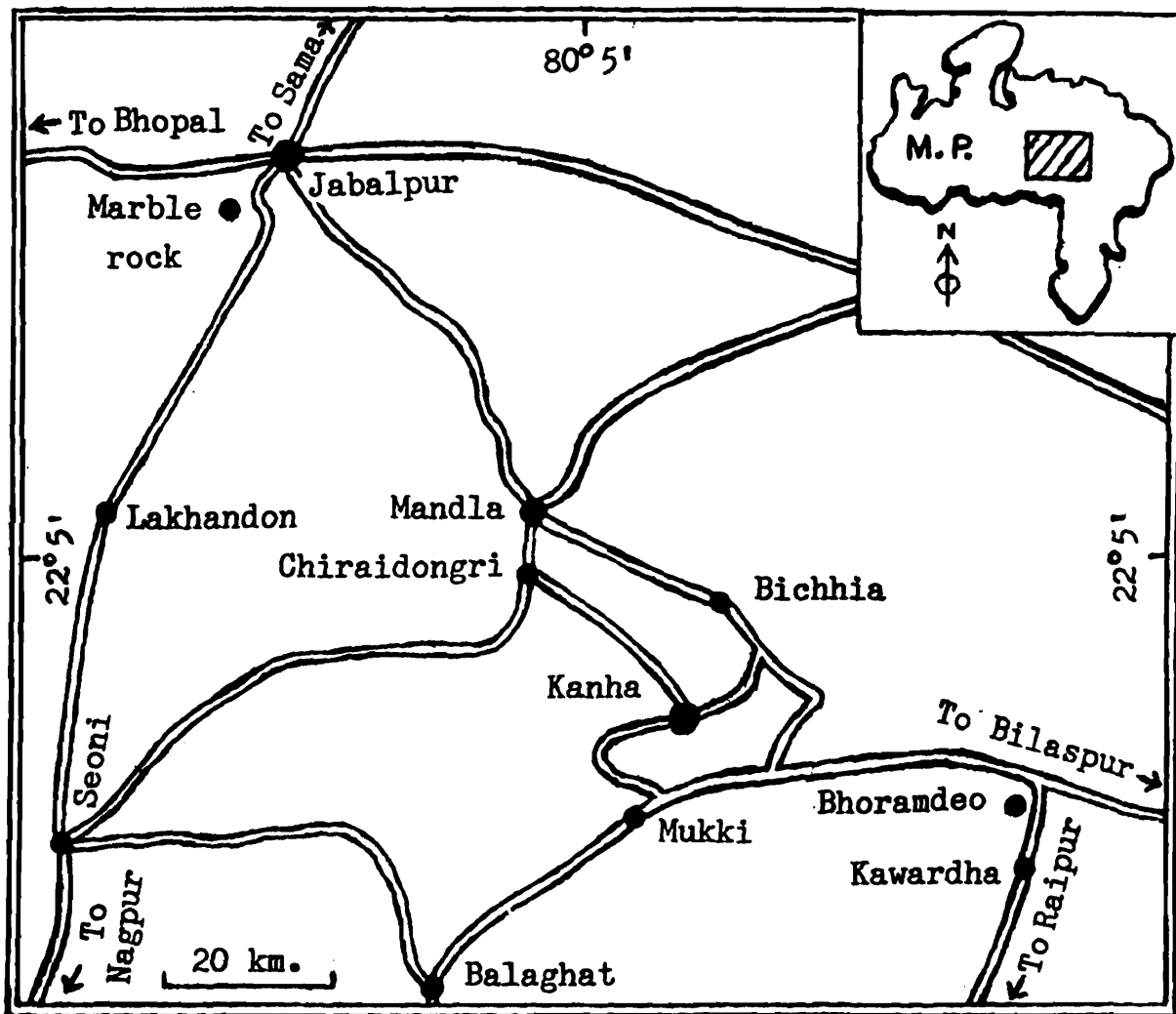
LOCATION AND AREA

The Kanha Tiger Reserve is located on the central Indian highlands and lies between 80°26' and 81°03' E longitudes and 22°07' and 22°27' N latitudes. It lies slightly in the east of these highlands and cradles in the Maikal branch of the Satpuras. The Reserve falls in two districts of Madhya Pradesh occupying southern part of Mandla district and north-eastern part of Balaghat district.

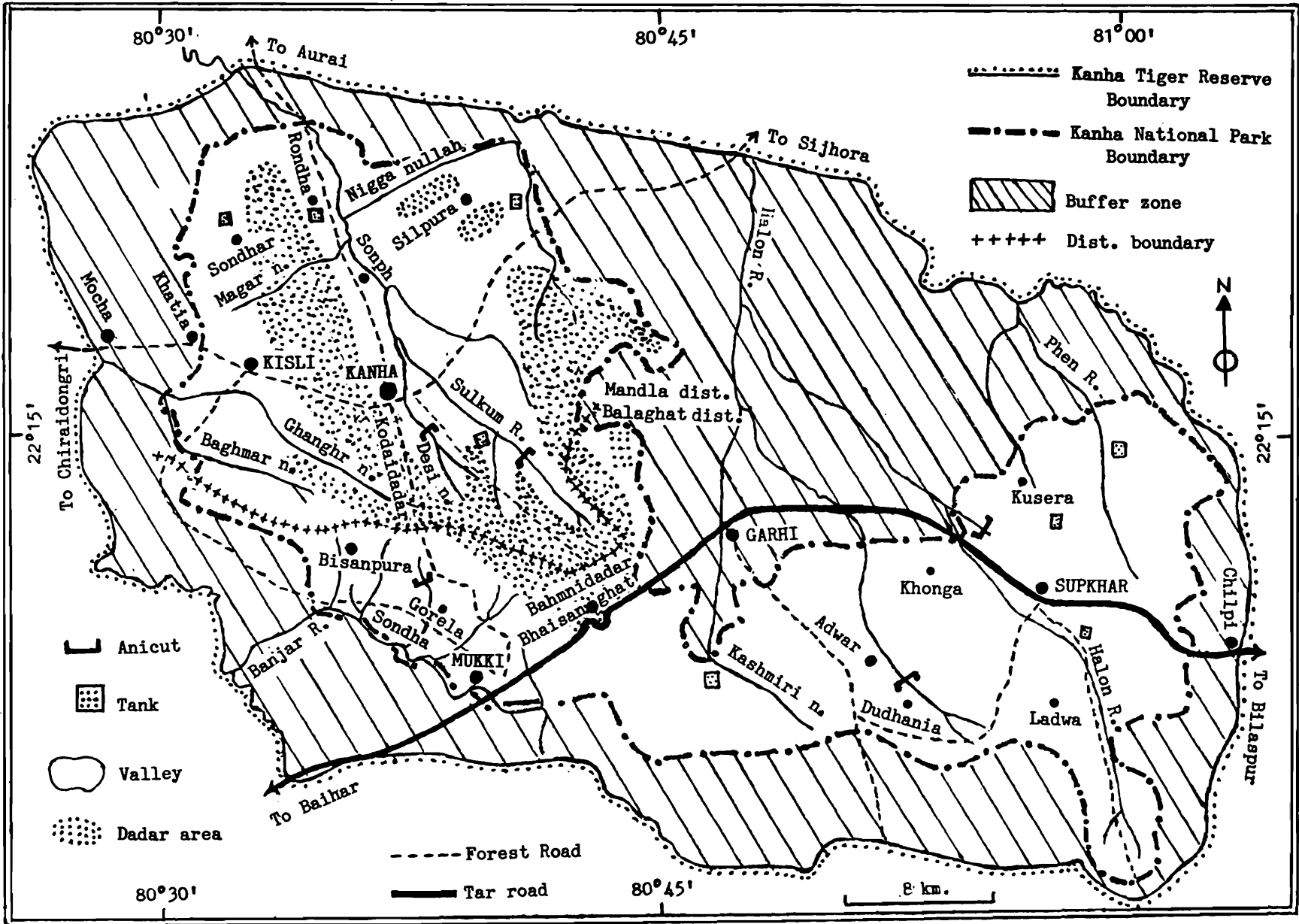
The Reserve has a core area of 940 sq. km. of which 699. sq. km. is the core zone of the Park and the remaining 241 sq. km. is the tourist zone. The buffer zone is 1005 sq. km. and about 40% of it is the forest and the remaining area is revenue land which falls in three divisions, viz. East and West Mandla, North Balaghat and Kawardha forest divisions. The forest area of the buffer zone is under the administrative control of the respective forest divisions. Districtwise breakup of the park is as under :

1. Mandla district (Kisli and Kanha Ranges) : 409.825 sq. km.

2. Balaghat district (Mukki, Bhaishanghat and Supkhar Ranges) : 530.122 sq.km



Text-figure 1.—Map Showing location of Kanha Tiger Reserve, Madhya Pradesh.



Text-figure 2.—Sketch map of Kanha Tiger Reserve.

TOPOGRAPHY

The Reserve is cradled in the easternmost part of the Satpura mountain system, called the Maikal ranges. The terrain is marked by a series of plateaus on the main ridge and major spurs. The slopes are steep in upper reaches. Halon, Banjar and Surpan comprises the main drainage system. The entire area is a part of Narmada Catchment. The Reserve consists of two ecological units formed by the Halon Valley in the east and Banjar Valley in the west.

The area represents typical deciduous forest of the tropical region. The Sal forests are found on the lower slopes and in the valleys, the mixed forests on the upper slopes and top of hills, and the grassland in the valleys and on plateaus, which constitute diversified habitat for a large variety of flora and fauna.

CLIMATE

There are three distinct seasons in Kanha. The temperature, humidity, wind and precipitation in these three seasons vary greatly.

Winter : November to February, December and January being the coldest time. Night temperature fall very low and severe frost occurs in the meadows in valleys. The mercury level comes down to 0°C or even lower. Relative humidity reaches 100% during night and the incidence of dew is heavy.

Summer : March to mid-June, the hottest period being from late April to first week of June. Maximum temperature raises up to 41°C in shades. Relative humidity during afternoon is as low as 20%.

Rains : June to October. Premonsoon showers are usually received in the second week of June and the regular onset takes place during third week of June. The wettest months are July and August. Total average rainfall is about 1224 m.m.

GEOLOGY

Several geological formations are found in the area of which some important ones are mentioned below.

Deccan Trap : This is the principal formation in the Supkhar and Bhaisanghat ranges and found in localised areas in the eastern parts of Balialotra, North Phen and South Phen blocks. Laterite is found in the plateau region. At Bahmidadar, Adwar and Jholar, it carries bauxite, with high percentage of aluminium.

Gneiss and crystalline schists : These occupy the largest area of Banjar Valley block, on either side of interdistrict border and Malidadar block excluding the Maikal ridges. Granatic gneisses occur exposed in the plain areas of Koilikhappa, Malidadar and South Phen blocks. The chief rock is mica schists. Gneiss, conglomerate, quartz-schists, etc. are found in close proximity.

In south Phen block, some iron stones and quartz boulders are also found. Mica is abundant in most of the areas. Small quantities of gold particles are also found in streams flowing over the gneissic country.

Lametas : They appear as narrow strips of variable thickness underlying trap rocks and are noticed in Bhaisanghat range along east of Dhiri and Dhaniajhor forest villages.

SOIL

The soil-types of various areas depend upon the parent rock and terrain. In Khaha, the soil are of the following types :

Black cotton soil : This soil is highly clayey in character and is common in the low lying area of Bhaisanghat and Supkhar ranges and also in pockets of Mukki and Kanha ranges.

Alluvium : It occur on the banks of all major streams in Supkhar, Garhi, Mukki and Kanha ranges and is a favoured site for village settelements because of good soil and perennial water sources.

Shara : It is also alluvial in character but contains greater part of sand and gravel. It occurs in upper periphery of vallyes and lower slopes and found in most of the areas in Malidadar, Banjar Valley and South Phen block.

Barra : Large expanse of this soil is found on flat extensive dadars. It is good to support grass. At any rate except during the summer it is a favoured abode for Gaur.

VEGETATION

The vegetation of the Reserve is of three broad types— sal forest, mixed forest and grassland. However, on the basis of vegetational cover the following 10 different types of variations are recognised.

Sal : This type occupys about 170 sq. km (c 18%) of the area and usually occurs in valleys where proportion of sal tree is more than 50%.

Sal-bamboo : In this type, bamboo occurs in sal forest and is found on lower slopes. This occupys about 47.7 sq. km (c 5%) of the area.

Sal-mixed : In this type, sal tree is less than 50% along with other associates and are found on moderate slopes occupying about 124 sq. km. (c 13%) of the area.

Sal-mixed-bamboo : This type harbours sal trees, bamboo and mixed forest species, and occupys about 69 sq. km. (c 7.34%) of the area.

Mixed forest : Distributed mostly at upper slopes and plateau areas and occupys about 151 sq. km. (c 16%) of the area.

Mixed-bamboo : This type consists of mixed forest with bamboo, distributed on upper slopes and plateaus, occupying about 233 sq. km. (c 24%) of the area.

Valley grassland : Occurs in the valleys occupying about 60 sq. km. (c 6.4%) of the area.

Dadar grassland : Located on flat hill tops and occupy about 24.6 sq. Km. (c 2.6%) of the area.

Grassland with mixed forest species : This type occurs mostly in valleys and harbour seedlings and saplings of mixed forest species. They occupy about 27 sq. km. (c 2.8%) of the area.

Agriculture and habitation : About 33 sq. km. (c 3.5%) area, mostly in the form of small forest villages, are occupied by agriculture and human habitation.

FAUNA

The spacious grassy table tops of hills, the mixed forests with dense bamboos on hill slopes, the sal forests interspersed with rolling meadows in the valleys below and the numerous meandering streams flowing the Reserve make it an unique wildlife habitat.

Kanha has over 60 species of mammals. The rich combination of vegetation and position of the land offers excellent shelter for the great variety of herbivores and carnivores. The typical deciduous flora in the tract carries a wide spectrum of grass, leaf, flower, fruit, root, fodder, etc. for a thriving community of herbivores. These, in turn, support the carnivores giving the ecosystem its highly dynamic functional efficacy.

The main herbivores to be found are the common langur (*Presbytis entellus*), Spotted deer (*Axis axis*), Sambar (*Cervus unicolor*), Gaur (*Bos gaurus*) and Branderi barasingha (*Cervus duvauceli branderi*) whose distribution is now restricted to Kanha only. Less commonly seen herbivores are the barking deer (*Muntiacus muntjac*), mouse deer (*Tragulus meminna*), black buck (*Antelope cervicapra*), nilgai (*Boselaphus tragocamelus*) and four-horned antelope (*Tetracerus quadricornis*) which is mostly seen in the dadars.

The carnivores like tiger (*Panthera tigris*), leopard (*Panthera pardus*), Indian fox (*Vulpes bengalensis*), Indian wild dog (*Cuon alpinus dukhunensis*), etc. , are seen now and then with patient watching. Among the rarely seen carnivores are ratel (*Melivora capensis*), smooth coated Indian otter (*Lutra perspicillata*), small Indian civet (*Viverricula indica*), and the wolf (*Canis lupus*) which lives in the far east of the Park. The scavenging contingent comprised of striped hyaena (*Hyaena hyaena*) and jackal (*Canis aureus*) whereas the omnivorous sloth bear (*Melursus ursinus*) also occurs in fair density.

Various rodents and bats occur in this Reserve in good number, but population of some animals like the Indian pangolin (*Manis crassicaudata*), porcupine (*Hystrix indica*), Indian gaint squirrel (*Ratufa indica centralis*), common gaint flying squirrel (*Petaurista petaurista philippensis*) are somewhat low.

The Pachmarhi Hare (*Lepus nigricollis mahadeva*) is normally met with everywhere. Among other lagomorph species like highly endangered Hispid hare (*Caprologus hispidus*) has recently been recorded from here. In fact Oliver (1985), Chairman of IUCN/SSC Pig and Piccary Specialist Group, found some pellets of this hare at Kisli. During his short visit at Kanha he, however, could not see any hispid physically there. In January 1991, the Zoological Survey of India party headed by myself has actually sighted one hispid among *Saccharum spontaneum* grasses at Kisli and another at Mukki. Forest officials at Mukki are also aware of its presence there. This finding is interesting because in recent times the range of the hispids are known to be from Nepal Terai to northern Assam only. In this connection it is worth mentioning that Blanford (1888-91, P. 454) mentioned about the occurrence of this species at Rajmahal hills which is in southern bank of Ganga river. Further study on the hispids of Kanha, therefore, appears to be an immediate necessity.

The Reserve offers an ideal habitat for a variety of feathered bipeds, reptiles, amphibians, fishes, insects, etc. The avian fauna is rich and about 230 species and subspecies of colourful and singing birds have been recorded from here. In the hills, the mixed and bamboo forests and grassy forest clearings harbour many species. Aquatic birds can be seen near small riverulets. The Shrawantal, other tanks of the Park, and the pool in front of Kanha Rest House are also frequented by water birds. The sal forests do not, normally, yield a sight of Kanha's avifauna. Commonly seen bird species include cattle egret (*Bubulcus ibis*), pond heron (*Ardeola grayii*), black ibis (*Pseudibis papillosa*), common peafowl (*Pavo cristatus*), crested serpent eagle (*Spilornis cheela*), racket-tailed drongo (*Dicrurus paradiseus*), crested hawk-eagle (*Spizaetus cirrhatus*), redwattled lapwing (*Vanellus indicus*), Indian roller (*Coracias bengalensis*), white-breasted kingfisher (*Halcyon smyrensis*), common grey hornbill (*Tockus birostris*) and various species of flycatchers, wood peckers, pigeons, doves, parakeets, babblers, mynahs, etc.

The reptiles include snakes and lizards. The rat snake (*Ptyas mucosus*) is common. The insects are mainly butterflies, moths, dragon flies, grass-hoppers, termites, etc.

In this context it may be mentioned that the lower forms of plants for example fungi, algae, bryophytes and pteridophytes are also quite common and these put together with lush vegetation complete the biotope.

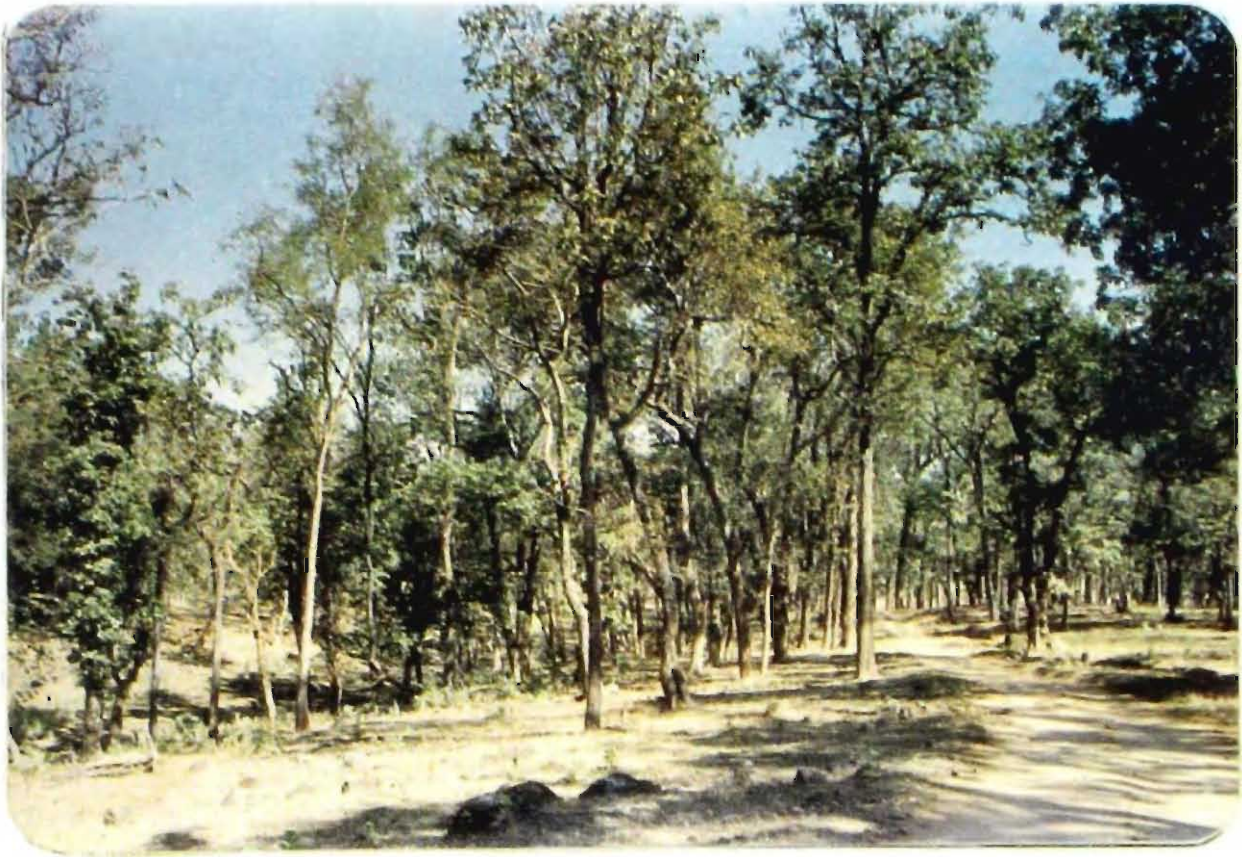
ACKNOWLEDGEMENTS

We are thankful to the Director, Tiger Project, New Delhi and to the Field Director, Kanha Tiger Reserve, for extending all possible help during the study period. Our thanks are also due to the officers and other forest staff for their active assistance during the field work.

REFERENCES

- Blanford, W. T. 1888-91. *The fauna of British India including Ceylon and Burma*. Mammalia. Taylor and Francis, London.

- Brander, A. A. D. 1906. Working plan of for the forests of the Banjar Valley Reserve, Mandla Forest Division, Northern Circle, C. P. for the period 1904-1935. Pioneer Press, Allahabad.
- Brandis, D. 1874. *The forest flora of North-West and Central India*. Wm. Allen & Co., London.
- Champion, H. G. and Seth, S. K. 1968. *A revised survey of the forest types of India*. Manager of Publications, Delhi.
- Forsyth, J. 1872. *The highlands of Central India*. Chapman & Hall, London.
- Kotwal, P. C. (n. d.) Ecological studies on the vegetation monitoring in Kanha Tiger Reserve, M. P. Forest Dept. (Mimeo.)
- Oliver, W. L. R. 1985. The distribution and status of the Hispid hare *Caprolagus hispidus*— with some additional notes on the Pigmy hog *Sus salvanious*. Jersey Wildlife Preservation Trust, Trinity, Jersey, Channel Islands, U. K.
- Panwar, H. S. (n. d.). Management plan for Kanha Tiger Reserve, M. P. 1973-74 to 1978-79 M. P. Forest Dept. (Mimeo.).



Above : A Pure Sal Forest area at Kanha
Bellow : A Sal-Bamboo mixed Forest area at Kanha

Fauna of Kanha Tiger Reserve



Above : A Sambar at Kanha
Bellow : A Jackal at Kanha



Above : A small troop of Common Langur at Kanha
Bellow : Photograph of pellets of Hispid Hare taken at Mukki

INSECTA : ISOPTERA

Termites are social insects. Castes include blind workers and pincer-jawed soldiers. Tunneling through wood, they cause great damage. Their intestinal protozoa digest the wood termite's food.

The author made an intensive collection of termites in the Kanha Tiger Reserve in June, 1964. The present communication is based on the study of this collection. Some other collections made by Dr. M.L. Roonwal and Dr. K. K. Tiwari of the Zoological Survey of India and Dr. George B. Schaller of Johns-Hopkins University (U.S.A.) have also been included. Altogether sixteen species belonging to two families are reported here.

For detailed information on the termites of Kanha Tiger Reserve also refer to the publication of Chhotani (1977, *Rec. zool. Surv. India*, **72** : 367-388).

SYSTEMATIC ACCOUNT

Family RHINOTERMITIDAE

Subfamily COPTOTERMITINAE

1. *Coptotermes heimi* (Wasmann)

1902. *Arihinotermes heimi* Wasmann, *Zool. Jb. (Syst.)*, **17** (1) : 104. Wallon, Ahmadnagar Dist., Maharashtra, India.

Material examined : A vial with 2 soldiers and 1 worker; 10.i.1966; K.K.Tiwari coll.

Distribution : Widely distributed in India and Pakistan.

Remarks : *C. heimi* damages dead and live trees of forestry importance, agricultural crops, timber, converted wood, etc.

Family TERMITIDAE

Subfamily AMITERMITINAE

2. *Speculitermes sinhalensis* Roonwal and Sen-Sarma

1960. *Speculitermes cyclops sinhalensis* Roonwal and Sen-Sarma, *Contr. Syst. Orient. Termites* (ICAR Ent. Mongr. 1) : 23-26. Vavuniya, North Province, Sri Lanka.

Material examined : One vial with workers; 15.vi.1964; O.B. Chhotani coll. One vial with workers; 10.i.1966; K.K. Tiwari coll. One vial with workers and nymphs; Bahmni Dadar; 13.i.1966; K.K. Tiwari coll.

Distribution : Sri Lanka and India.

Remarks : In Kanha Tiger Reserve the species was collected from under a stone, making narrow galleries running horizontally a little below the ground-level for some distance.

3. *Euhamitermes kanhaensis* Roonwal and Chhotani

1965. *Euhamitermes kanhaensis* Roonwal and Chhotani, *Proc. zool. Soc.*, Calcutta, **18** : 11-16. Kanha National Park, Mandla Dist., M.P., India.

Material examined : Soldier (holotype) and workers (morphotype and paramorphotype), as mentioned in Roonwal and Chhotani (1965).

Distribution : Known only from Kanha Tiger Reserve, M.P., India.

Remarks : It makes longitudinal galleries in the soil, under stones.

4. *Eurytermes boveni* Roonwal and Chhotani

1966. *Eurytermes boveni* Roonwal and Chhotani, *Proc. nat. Inst. Sci.*, **31**: 99-105. Kanha National Park, Mandla Dist., M.P. India.

Material examined : Soldier (holotype) and imagos and workers (morphotype and paramorphotype), as mentioned in Roonwal and Chhotani (1966).

Distribution : Known only from Kanha Tiger Reserve, M.P., India.

Remarks : The species makes long and narrow galleries, running horizontally about 2-5 cm below the ground level. The galleries are flattened at places into small, round pockets.

5. *Synhamitermes quadriceps* (Wasmann)

1902. *Amitermes quadriceps* Wasmann, *Zool. Jb. (Syst.)* **17** (1) : 123. Khandala, Maharashtra, India.

Material examined : Two vials, one with king, queen, soldiers and workers, and the other with imagos, soldiers and workers; June 1964; O.B.Chhotani coll.

Distribution : The species is known from Maharashtra, Madhya Pradesh, Assam and Rajasthan in India.

Remarks : In Kanha Tiger Reserve, the species has been found inhabiting large, dome-shaped mounds of *Odontotermes obesus*. It forms narrow galleries which get flattened and enlarged into small, round or oval chambers of 2-3 cm diameter, mainly in the wall area of the mounds.

6. *Microcerotermes beelsoni* Snyder

1933. *Microcerotermes beelsoni* Snyder, *Proc. U.S. natn. Mus.*, **82** (16) : 12-14. Haldwani, U.P., India.

Material examined : Six vials with imagos, soldiers and workers, three vials with soldiers and workers and one vial with queen, soldiers and workers; 14-16.vi.1964; O.B. Chhotani coll.

Distribution : Uttar Pradesh, Delhi and Madhya Pradesh in India.

Remarks : The material was collected from mounds of *Odontotermes obesus*, pieces of wood lying on jungle floor and under stone.

Subfamily TERMITINAE

7. *Dicuspiditermes obtusus* (Silvestri)

1923. *Capritermes obtusus* Silvestri, *Rec. Indian Mus.*, **25** (2) : 229-231. Barkuda Isl., Chilka Lake, Orissa, India.

Material examined : One vial with soldiers and workers; 9. vi.1964; O.B. Chhotani coll. Three vials with soldiers and workers; 15-16.vi.1964; O.B. Chhotani coll.

Distribution : Orissa and Madhya Pradesh in India.

Remarks : The species has been collected from under stone and soil. In the soil, it makes narrow, longitudinal galleries which are coated with blackish faecal material.

8. *Pericapritermes tetraphilus* (Silvestri)

1922. *Capritermes tetraphilus* Silvestri. *Rec. Indian Mus.*, **24** (4) : 543-545. Chittagong Hill Tracts, Bangladesh.

Material examined : One vial with soldiers and workers; 14.vi.1964; O.B. Chhotani coll.

Distribution : Kanha Tiger Reserve, M.P., in India; Bangladesh; Burma.

Remarks : In Kanha Tiger Reserve it has been found inhabiting the mound of *Odontotermes obesus*. Generally, it makes small, narrow (2-15 cm wide) galleries which lead into chambers of different sizes (3-4 cm in diameter) and shapes. At one mound, near the top the galleries lead into larger chambers, arranged in tiers one above the other, having flat floors and arched roofs. From this set of chambers, galleries (coated with greyish faecal matter) of variable sizes lead to about the base of the mound.

Subfamily MACROTERMITINAE

9. *Odontotermes assmuthi* Holmgren

1913. *Odontotermes (Odontotermes) assmuthi* Holmgren, *J. Bombay nat. Hist. Soc.* **22** (1) : 112-113, Borivilli Jungles, Bombay, India.

Material examined : One vial with Imagos, soldiers and workers and two vials with soldiers and workers; 15-16.vi.1964; O.B.Chhotani coll.

Distribution : The species is known from Jammu & Kashmir, Uttar Pradesh, Bihar, Madhya Pradesh, Maharashtra, Karnataka and Tamil Nadu in India.

Remarks : The species does not construct any mounds; its nests are underground. In Kanha it has been collected, along with *Eurytermes boveni*, from under stones, 2-5 cm below the ground surface, and from a mound of *O. obesus*.

10. *Odontotermes bhagwatii* Chatterjee and Thakur

1967. *Odontotermes bhagwatii* Chatterjee and Thakur, *Indian Forest Rec.*, **11** (1) : 33-35. Near Railway Station, Pathankot, Punjab, India.

Material examined : Nine vials with soldiers and workers; 13 and 15.vi.1964; O.B. Chhotani coll. Two vials with soldiers and workers; Kanha and Kisli Rest Houses; Dec. 1965-Jan. 1966; K.K. Tiwari coll. One vial with imagos and a soldier; 27.vi.1964; George B. Schaller coll.

Distribution : Punjab and Madhya Pradesh in India.

Remarks : The species feeds on dead wood and has been collected from bark of a 'Serai' tree and from twigs and logs of unknown woods lying on the ground in the forest. It has also been found cultivating fungus under stone.

11. *Odontotermes bguptai* Roonwal & Bose Holmgren & Holmgren

1961. *Odontotermes bellahunisensis guptai* Roonwal and Bose, *J. Bombay nat. Hist. Soc.* 58 (3) : 588-593. Near Gudha, Nagaur Dist., Rajasthan, India.

Material examined : Two vials with soldiers and workers; 15-16.vi.1994; O.B. Chhotani coll. Two vials with soldiers and workers; Kisli; January 1966; K.K.Tiwari coll.

Distribution : The species is known from Rajasthan, Jammu and Kashmir, and Madhya Pradesh in India; Pakistan.

12. *Odontotermes horni* (Wasmann)

1902. *Termes horni* Wasmann, *Zool. Jb. (Syst.)*, 17 (1) : 111. Nalanda, Sri Lanka.

Material examined : Two vials with workers and soldiers; 15-16.vi.1964; O.B. Chhotani coll. Two vials with workers and soldiers; Kisli; January 1966; K.K. Tiwari coll.

Distribution : Widely distributed in India and Sri Lanka.

Remarks : In Kanha, it has been collected from dead twigs lying on the ground and from under stones. The species is not known to build any mound, its nests are subterranean and feeds on bark and log of trees.

13. *Odontotermes microdentatus* Roonwal and Sen-Sarma

1960. *Odontotermes microdentatus* Roonwal & Sen-Sarma, *Contrib. Syst. Orient. Termites* (ICAR, Ent. Mongr. 1) : 33-39. Dehra Dun, U.P., India.

Material examined : One vial with soldiers and workers; 21.iv.1963; M.L. Roonwal coll. Four vials with soldiers and Workers and two vials with king, queen, soldiers and workers; 8-15.vi.1964; O.B. Chhotani coll. One vial with soldiers and workers; 9.i.1966; K.K. Tiwari coll.

Distribution : Himachal Pradesh, Uttar Pradesh and Madhya Pradesh in India.

Remarks : Its mounds, in Kanha, are dome-shaped, have a few round swellings and vary from 28-100 cm in height and 4.50-6.30 m in circumference at the base. For further details on the mound Chhotani (1977) may be consulted. This species has also been observed attacking logs and woods lying on ground and making earthen galleries on and under the bark of Sal trees.

14. *Odontoermes obesus* (Rambur)

1842. *Termes obesus* Rambur, *Histoire naturelle des insectes, Ne vropte res*: 304. Bombay, India.

Material examined : Coll. M.L. Roonwal : One vial with soldiers and workers; 21.iv.1963. Coll. O.B. Chhotani : Four vials with king, queen, soldiers, workers and nymphs; 8-12.vi.1964. One vial with king, queen, workers, nymphs and eggs; 12.vi.1964. One vial with 2 queens, king, imagos, soldiers and workers; 11.vi.1964. Two vials with king, queen, soldiers and workers; 13 & 16.vi.1964. Four vials with soldiers and workers ; 13-16.vi.1964. One vial with soldiers, workers and young ones; 10.vi.1964. One vial with soldiers, workers and dead imagos; 14.vi.1964. One vial with imagos; 15.vi.1964. Coll George B. Schaller : One vial with imagos; 21.vi.1964 (for further details *vide* Chhotani, 1977).

Distribution : A very common species and widely distributed in India and Pakistan.

Remarks : It is a common mound-building termite in India. Four types of mounds have been observed in Kanha Tiger Reserve. They are as follow : (1) Tall unilocular mounds with buttresses varying from about 29 cm to 2.35m in height and 1.14-7.2m in circumference at base, (2) dome-shaped mounds having large number of turrets, height with turrets varies from 60-110 cm and circumference at the base 5.80 to 9.10 m, (3) mounds having a number of lumps of earth over the ground surface and (4) large dome-shaped mounds (60-110 cm in height and 5.75-9.30 m in circumference at the base) having a number of large holes opening outside (Chhotani, 1977).

15. *Microtermes obesi* Holmgren

1911. *Microtermes obesi* Holmgren, *J. Bombay nat. Hist. Soc.*, **21** (1) : 787-788. Khandala, Maharashtra, India.

Material examined : One vial with imagos, soldiers and workers, four vials with soldiers and workers from *Odontotermes* mounds and two vials from twigs of unknown plants; 8,10, 13-15.vi.1964; O.B.Chhotani coll. Two vials of soldiers and workers from Kanha and Kisli; 31.xii.1965 and 10.i.1966 respectively; K.K. Tiwari coll.

Distribution : Known from all over Indian Region. Also recorded from Thailand.

Remarks : In Kanha Tiger Reserve, it has been found in soil and in the walls of the mounds of *Odontotermes* spp. The nests are with inter-communicating galleries and small chambers of 2-4 cm diameter lodged with fungus combs. The species has been observed to eat twigs of unknown plants lying on the ground.

16. *Microtermes unicolor* Snyder

1933. *Microtermes unicolor* Snyder, *Proc. biol. Soc. Wash.*, **46** : 92-93. Dehra Dun, India.

Material examined : Coll. M.L. Roonwal : One vial with several imago; 21.iv.1963. Coll. George B. Schaller : One vial with imagos; 22.vi.1963. Coll O.B. Chhotani : Three vials with imagos, soldiers and workers; 9-11.vi.1964. Three vials with soldiers and workers; 14-15.vi.1964. Three vials with soldiers and workers; 14-15.vi.1964. One vial with two imago; 15.vi.1964 (for further details *vide* Chhotani 1977).

Distribution : The species is known from Punjab, Himachal Pradesh, Jammu and Kashmir and Madhya Pradesh in India. It is also found in Pakistan.

Remarks : It occurs in soil and in the walls of the mounds of *Odontotermes* spp. The nest is like that of *M. obesi*. In Kanha, it has been collected from small twigs of wood lying on ground.

REFERENCES

- Chhotani , O.B. 1977. Termites of Kanha National Park (Madhya Pradesh), India. *Rec. zool. Surv. India*, **72** : 367-388.
- Roonwal, M.L. and Chhotani, O.B. 1965. Two new species of *Euhamitermes* Holmgren (Insecta: Isoptera : Termitidae) from India. *Proc. zool. Soc., Calcutta*, **18** (1) : 11-19.
- Roonwal, M.L. and Chhotani, O.B. 1966. Revision of termite genus *Eurytermes* (Termitidae : Amitermitinae). *Proc. nat. Inst. Sci. India*, (B) **31** (3 & 4) : 81-113.

INSECTA : LEPIDOPTERA

This paper deals with the butterflies of the Kanha Tiger Reserve, Madhya Pradesh, containing 7 species belonging to 6 genera and three families. An account of them are given hereunder.

Family PIERIDAE

1. *Valeria valeria hippia* (Fabricius)

1787. *Papilio hippia*, Fabricius, *Mant. Ins.*, ii, pp. 55.

1938. *Valeria valeria hippia* : Talbot, *The Fauna of British India, including Ceylon and Burma, Butterflies*, 1 : 486.

Material examined : 1 ex. (Reg. No. A/1926) ; Mukki, Balaghat dist. ; 21.i.91; R. K. Ghose coll.

Distribution : India to Burma.

Remarks : It is a common species.

2. *Catopsilia pomona* (Fabricius)

1775. *Papilio pomona*, Fabricius, *Syst. Ent.*, p. 479.

1938. *Catopsilia pomona* : Talbot, *The Fauna of British India, including Ceylon and Burma, Butterflies*, 1 : 493.

Material examined : 1 ex. (Reg. No. A/1925); Mukki, Balaghat dist.; 21.i.91; R. K. Ghose coll.

Distribution : India, Sri Lanka, Burma, South China to the Solomon Island and Australia.

Remarks : It is also a common species.

3. *Eurema hecabe simulata* (Moore)

1881. *Terias simulata*, Moore, *Lep. Ceylon*, i, pp. 119.

1938. *Eurema hecabe simulata* : Talbot, *The Fauna of British India, including Ceylon and Burma, Butterflies*, 1 : 530.

Material examined : 1 ex. (Reg. No. A/1924); Kanha forest range, Mandla dist.; 18.i.91; R. K. Ghose coll.

Distribution : Peninsular India, including Madhya Pradesh and Sri Lanka.

Remarks : It is a very common species.

Family DANAIIDAE

4. *Danaus limniace leopardus* (Butter)

1866. *Danaus limniace* var. *leopardus* Butter, *Proc. Zool. Soc. Lond.*, 1866, pp. 52.

1947. *Danaus limniace leopardus* : Talbot, *The Fauna of British India, including Ceylon and Burma*, Butterflies, 2 : 31.

Material examined : 1 ex. (Reg. No. A/1911); Motinala, Mandla dist.; 1.ii.91; R. K. Ghose coll.

Distribution : India : Chitral to Kumaon, Orissa, Bengal, Sikkim, Assam, Nicobar Islands; and Sri Lanka, Baluchistan, South China, Formosa, Hainan, Targking, Thailand, Vietnam and Perak.

Remarks : This species is not rare in Madhya Pradesh.

5. *Danaus plexippus plexippus* (Linnaeus)

1758. *Papilio plexippus*, Linnaeus, *Systema Naturae*, (10th. ed.) i, pp. 471.

1947. *Danaus plexippus plexippus* : Talbot, *The Fauna of British India, including Ceylon and Burma*, Butterflies, 2 : 25.

Material examined : 4 exs. (Reg. Nos. A/1912, 1913, 1914 & 1915); Mukki, Balaghat dist.; 21.i.91. R. K. Ghose coll. 1 ex. (Reg. No. A/1916); Supkhar, Balaghat dist.; 30.i.91; R. K. Ghose coll.

Distribution : Whole of India, Afghanistan, Baluchistan, Sri Lanka, Burma, Yunnan to South China and the Riu-Kiu Islands, Tong-king, Annam and Siam.

Remarks : This is a very common species.

6. *Euploea core core* (Cramer)

1780. *Papilio core*, Cramer, *Pap. Exot.*, iii, pp. 133.

1947. *Euploea core core* : Talbot *The Fauna of British India, including Ceylon and Burma*, Butterflies, 2 : 67.

Material examined : 2 exs. (Reg. No. A/1918); Mukki, Balaghat dist.; 21.i.91; R. K. Ghose coll. 1 ex. (Reg. No. A/1917); Mukki, Balaghat dist.; 23.i.91; R. K. Ghose coll. 1 ex. (Reg. No. A/1919); Supkhar, Balaghat dist.; 30.i.91; R. K. Ghose coll.

Distribution : Throughout India and also occurs in the Himalayas up to c 1525 m.

Remarks : It is a common species in Madhya Pradesh.

Family SATYRIDAE

7. *Melanitis leda ismene* (Cramer)

1775. *Papilio ismene*, Cramer, *Pap. Exot.*, i, pp. 40.

1947. *Melanitis leda ismene* : Talbot, *The Fauna of British India, including Ceylon and Burma*, Butterflies, 2 : 366.

Material examined : 1 ex. (Reg. No. A/1922); Kanha, Mandla dist.; 18.i.91; R. K. Ghose coll.

Distribution : India, Sri Lanka, Burma. Also extending to Japan and Formosa and to Malaya, Sumatra and Borneo.

Remarks : It is a common species in Madhya Pradesh.

INSECTA : ORTHOPTERA

The orthopteran insects are of great economic importance. Many species are serious pests of crops, forests and pastures, in India. They feed mainly on grasses, shrubs and trees with their biting and chewing mouth-parts. Their eggs are hatched into miniature adults called nymphs and have gradual metamorphosis. However, the collection of Orthoptera (Acridoidea and Grylloidea) taken from Kanha Tiger Reserve by the Zoological Survey of India parties from time to time has been studied and the results presented hereunder. The collection comprises of 137 examples distributed over 4 families and 20 species (excluding 3 species identified up to generic level) of Acridoidea and Grylloidea.

SYSTEMATIC ACCOUNT

Order ORTHOPTERA

Superfamily ACRIDOIDEA

Family PYRGOMORPHIDAE

1. *Atractomorpha crenulata crenulata* (Fabricius)

1793. *Truxalis crenulatus* Fabricius, *Ent. Syst.*, 2 : 28.

1861. *Atractomorpha crenulata*, Saussure, *Annl. Soc. ent. Fr.*, (4) 1 : 475.

1969. *Atractomorpha crenulata crenulata*, Kevan & Chen, *Zool. J. Linn. Soc.*, 48 : 187.

Material examined : 6 M, 9 F, caught from cultivated fields, thick forests and on vegetation adjoining nallah during February-May.

Distribution : India (Andaman & Nicobar Islands, Andhra Pradesh, Bihar, Goa, Jammu & Kashmir, Kerala, Lakshadweep, Orissa, Rajasthan and West Bengal); Bangladesh; Myanmar; Pakistan; N. W. Sumatra; Sri Lanka; S. Vietnam.

2. *Chrotogonus (Chrotogonus) tr. trachypterus* (Blanch.)

1836. *Ommexycha trachypterus* Blanchard, *Annl. Soc. ent. fr.*, 5 : 618.

1959. *Chrotogonus (Ch.) tr. trachypterus*, Kevan, *Publcoes. cult. Co. Diam. Angola*, no. 43 : 147.

Material examined : 1 F, caught on the edge of forest in February.

Distribution : India (Andhra Pradesh, Jammu & Kashmir, Karnataka, Bihar, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal); Bangladesh; Nepal; Pakistan.

Family ACRIDIDAE

Subfamily HEMIACRIDINAE

3. *Spathosternum p. prasiniferum* (Walker)

1871. *Heteracris* (?) *prasinifera* Walker, *Cat. Derm. Salt. Brit. Mus.*, 5 : Suppl. : 55.

1936. *Spathosternum prasiniferum prasiniferum*, Tinkham, *Lingnan. Sci. J.*, 15 : 51.

Material examined : 6 M, 2 F, found on the edge of forest near water in February.

Distribution : India (Andhra Pradesh, Arunachal Pradesh, Bihar, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and West Bengal); S. E. China; Myanmar; Thailand; Vietnam.

Subfamily EYPREPOCNEMIDINAE

4. *Eyprepocnemis* sp.

1853. *Eyprepocnemis* Fieber, *Lotos*, 3 : 98.

1958. *Eyprepocnemis*, Dirsh, *Proc. R. ent. Soc. Lond.*, (B) 27 : 34.

Material examined : 1 nymph, caught on road in May.

Distribution : The genus is distributed throughout Africa, Mediterranean coasts of Europe, the whole of Southern Asia and parts of the Malayan archipelago.

5. *Eyprepocnemis rosea* Uvarov

1942. *Eyprepocnemis roseus* Uvarov, *Ann. Mag. nat. Hist.*, (11) 9 (56) : 597.

1958. *Eyprepocnemis rosea*, Uvarov, *Proc. R. ent. Soc. Lond.*, (B) 27 : 42.

Material examined : 1M, caught from vegetation along the road in May.

Distribution : India (Himachal Pradesh, Madhya Pradesh, Meghalaya and Uttar Pradesh).

Subfamily CATANTOPINAE

6. *Stenocatantops splendens* (Thunberg)

1815. *Gryllus splendens* Thunberg, *Mem. Acad. Sci. St.-Petersb.*, 5 : 236.

1953. *Stenocatantops splendens*, Dirsh & Uvarov, *Tijdschr. Ent.*, 96 (3) : 237.

Material examined : 1M, 2F, captured from forest and on vegetation adjoining nallah.

Distribution : India (Arunachal Pradesh, Andaman & Nicobar Islands, Assam, Delhi, Madhya Pradesh, Tamil Nadu and West Bengal); Amoy; Borneo; Celebes; China; French-Indo-China; Java; Myanmar; Nepal; New Guinea; Philippine Islands; Sarawak; Sri Lanka; Sumatra; Taiwan; Thailand.

Subfamily ROMALEDINAE

7. *Teratodes* sp.

1835. *Teratodes* Brulle *Hist. Ins.*, 9 : 222.

1914. *Teratodes*, Kirby, *Fauna Brit. India*, Orthoptera (Acridiidae) : 234.

Material examined : 1 nymph, caught from the vegetation adjoining base of hill.

Distribution : The genus is distributed in India and Sri Lanka.

Subfamily ACRIDINAE

8. *Acrida exaltata* (Walker)

1859. *Truxalis exaltata* Walker, *Ann. Mag. nat. Hist.*, 4 (3) : 222.

1954. *Acrida exaltata*, Dirsh, *Bull. Soc. Fouad I. Ent.*, 38 : 149.

Material examined : 3M, 1F, caught from grasses adjoining forest paths during February-May.

Distribution : India (Arunachal Pradesh, Jammu & Kashmir, Kerala, Rajasthan, Madhya Pradesh, Tamil Nadu and West Bengal); Afghanistan; Aden; Bangladesh; Iran; Pakistan; Saudi Arabia; S.E. Tibet; Yemen.

9. *Phlaeoba infumata* Brunner von Wattenwyl

1893. *Phlaeoba infumata* Brunner, *Annals Mus. civ. Stor. nat. Giacomo Doria*, 33 : 124.

1914. *Phlaeoba infumata*, Kirby, *Fauna Brit. India*, Orthoptera (Acrididae) : 103

Material examined : 1M, caught from vegetation adjoining nallah in February.

Distribution : India (Arunachal Pradesh, Bihar, Delhi, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and West Bengal); Bangladesh; China (Hainan, S. and N. Kuangtung, Yunnan, Kwangsi); Malacca; Myanmar (Tenasserim).

Subfamily OEDIPODINAE

10. *Aiolopus thalassinus tamulus* (Fabricius)

1798. *Gryllus tamulus* Fabricius, *Ent. Syst. Suppl.* : 195.

1968. *Aiolopus thalassinus tamulus*, Hollis, *Bull. Br. Mus. nat. Hist. (Ent.)*, 22 (1) : 347.

Material examined : 1M, from dry vegetation.

Distribution : India (Andaman & Nicobar Islands, Bihar, Delhi, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu and West Bengal); Australia; Bangladesh; Borneo; China (Hainan); Japan; Java; Malaya; Myanmar; New Guinea; Singapore; Sri Lanka; Sumatra; Taiwan.

11. *Ditopternis venusta* (Walker)

1870. *Oedipoda venusta* Walker, *Cat. Derm. Salt. Brit. Mus.*, 4 : 740.

1914. *Ditopternis venusta*, Kirby *Fauna Brit. India*, Orthoptera (Acridiidae) : 140.

Material examined : 1M, found on vegetation adjoining road in February.

Distribution : India (Karnataka, Madhya Pradesh, Orissa, Tamil Nadu and West Bengal).

12. *Gastrimargus africanus africanus* (Saussure)

1888. *Oedaleus* (*Gastrimargus*) *marmoratus* var. *africana* Saussure, *Mem. Soc. Phys. Hist. nat. Geneve*, **30** (1) : 39.
1928. *Gastrimargus africanus* var. *orientalis*, Sjostedt, *K. Svenska Vetensk. Akad. Handl.*, (3) **6** (1): 41.
1982. *Gastrimargus africanus africanus*, Ritchie, *Bull. Br. Mus. nat. Hist. (Ent.)*, **44** : 248.

Material examined : 2 M, 4F, captured from forest ground and forest meadows during February-May.

Distribution : India (Arunachal Pradesh, Bihar, Goa, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Orissa, Sikkim, Uttar Pradesh and West Bengal); Comoro Islands; Myanmar; Nepal; Pakistan; Saudi Arabia; Seychelles; Sri Lanka; Thailand; Tibet; Yemen.

13. *Oedaleus abruptus* (Thunberg)

1815. *Gryllus abruptus* Thunberg, *Mem. Acad. Sci. St. Petersburg.*, **5** : 233.
1981. *Oedaleus abruptus*, Ritchie, *Bull. Br. Mus. nat. Hist. (Ent.)*, **42** (3) : 104.

Material examined : 1 M, caught from forest meadow adjoining nallah.

Distribution : India (Andhra Pradesh, Bihar, Goa, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal); Bangladesh; China; Indo-China; Myanmar; E. Nepal; Pakistan; Sri Lanka; Thailand.

14. *Trilophidia annulata* (Thunberg)

1815. *Gryllus annulatus* Thunberg, *Mem. Acad. Sci. St. Petersburg.*, **5** : 234.
1965. *Trilophidia annulata*, Hollis, *Trans. R. ent. Soc. Lond.*, **117** (8) : 251.

Material examined : 1M, 2 nymphs, caught from bare ground in the forest in January

Distribution : India (Andhra Pradesh, Arunachal Pradesh, Bihar Goa, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal); Bangladesh; Borneo; Hongkong; Japan; Java; Korea; Malaya; Mongolia; Myanmar; Pakistan; Malaysia (Sarawak); Singapore; Sri Lanka; Sumatra; Taiwan.

15. *Aulacobothrus* sp.

1902. *Aulacobothrus* Bolivar, *Annl. Soc. ent. Fr.*, **70** : 597.
1914. *Aulacobothrus*, Kirby, *Fauna Brit. India.*, Orthoptera (Acridiidae) : 123.

Material examined : 2M, 1 nymph, obtained from dry paddy fields and forest road during March and May.

Distribution : The genus is distributed in India.

16. *Aulacobothrus strictus* Bolivar

1902. *Aulacobothrus strictus* Bolivar, *Annls Soc. ent. Fr.*, **70** : 598.

1914. *Aulacobothrus strictus*, Kirby, *Fauna Brit. India*, Orthoptera (Acridiidae) : 124.

Material examined : 43M, 19 F, captured from meadows, adjoining nallah and from forest paths during February-May.

Distribution : India (Madhya Pradesh and Tamil Nadu).

17. *Mesopsis cylindricus* (Kirby)

1914. *Aswatthamanus cylindricus* Kirby, *Fauna Brit. India*, Orthoptera (Acridiidae) : 101.

1921. *Mesopsis cylindricus*, Uvarov, *Ann. Mag. nat. Hist.*, (9) **7** : 482.

Material examined : 1M, 1 nymph, obtained from vegetation adjoining forest paths.

Distribution : India (Andhra Pradesh, Bihar and Madhya Pradesh).

Superfamily GRYLLOIDEA

Family GRYLLIDAE

Subfamily GRYLLINAE

18. *Gryllus bimaculatus* De Geer

1773. *Gryllus bimaculatus* De Geer, *Mem. Ins.*, **3** : 521.

1969. *Gryllus bimaculatus*, Chopard, *Fauna of India*, Orthoptera, **2** (Grylloidea) : 35.

Material examined : 3M, 9F, captured from low vegetation from the edge of forest and dry paddy fields during February, March and May.

Distribution : India (Andaman Islands, Andhra Pradesh, Arunachal Pradesh, Bihar, Madhya Pradesh, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Meghalaya, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal); Africa; Malaya; Myanmar; Mediterranean region; Sri Lanka; Singapore.

19. *Gryllodes sigillatus* (Walker)

1869. *Gryllus sigillatus* Walker, *Cat. Derm. Salt. Brit. Mus.* **1** : 46.

1969. *Gryllodes sigillatus*, Chopard, *Fauna of India*, Orthoptera, **2** (Grylloidea) : 85.

Material examined : 1F, caught from dry paddy fields in March.

Distribution : Cosmotropical. However, in India it is distributed in Andaman Islands, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal.

20. *Modicogryllus confirmatus* (Walker)

1869. *Gryllus confirmatus* Walker, *Cat. Derm. Salt. Brit. Mus.*, 1 : 37.

1964. *Modicogryllus confirmatus*, Randell, *Can. Ent.*, 96 (12) : 1584.

Material examined : 2M, 1F, captured from meadows and from fallen leaves inside the forest in February.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Orissa, Rajasthan, Tamil Nadu, Tripura and West Bengal); Israel; Malaya; Myanmar; Nepal; Phillipines; Sri Lanka; Thailand.

21. *Teleogryllus mitratus* (Burmeister)

1838. *Gryllus mitratus* Burmeister, *Handb. Ent.*, 2 : 734.

1964. *Teleogryllus mitratus*, Randell, *Can. Ent.*, 96 (12) : 1596.

Material examined : 2M, captured from vegetation along forest path.

Distribution : India (Andaman Islands, Arunachal Pradesh, Assam, Bihar, Karnataka, Madhya Pradesh, Manipur, Meghalaya, Orissa, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal); Bhutan, Japan; Malaysia (Johore); Malaya (Kuala Lumpur); Pahang; Phillipines; Sri Lanka; Taiwan; Tibet.

Subfamily NEMOBIINAE

22. *Pteronemobius fascipes* (Walker)

1869. *Eneoptera fascipes* Walker, *Cat. Derm. Salt. Br. Mus.*, 1 : 67.

1969. *Pteronemobius fascipes*, Chopard, *Fauna of India*, Orthoptera, 2 Grylloidea : 164.

Material examined : 2M, 6F, found on meadows adjoining nalah during February-March.

Distribution : India (Arunachal Pradesh, Assam, Bihar, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Orissa, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal); China; Malaysia; Myanmar; Phillipines; Taiwan.

23. *Oecanthus indicus* Saussure

1878. *Oecanthus indicus* Saussure, *Mem. Soc. Geneve*, 25 : 454.

1969. *Oecanthus indicus* Chopard, *Fauna of India*, Orthoptera 2, Grylloidea : 267.

Material examined : 1M, caught from vegetation along forest path.

Distribution : India (Andaman Islands, Tamil Nadu, Tripura and West Bengal); Amboine; China; Japan; Malaysia; Philippines; Indonesia (Sumba).

REFERENCES

- Tandon, S.K., Shishodia, M.S. and Dey, A. 1976. On a collection of Orthoptera (Insecta) from the Kanha National Park, Mandla, Madhya Pradesh, India. *Newsl. zool. Surv. India*, **2** (4) : 167-170.

ARACHNIDA : SPIDERS

This paper deals with the arachnida fauna of Kanha Tiger Reserve, Madhya Pradesh. The collection contains 14 species belonging to 9 genera and 5 families. Out of the 14 species reported hereunder, 13 are hithertofore unknown from the State of Madhya Pradesh and/or Kanha Tiger Reserve.

Order ARANEAE

Family GNAPHOSIDAE

1. *Haplodrassus sataraensis* Tikader & Gajbe

1977. *Haplodrassus sataraensis* Tikader & Gajbe, *Rec. zool. Surv. India*, 73 (1-4): 70.

1982. *Haplodrassus sataraensis* Tikader & Gajbe, *Fauna of India, Spiders*, 2 (2) : 466.

Specimens examined : 1F, (Reg. No. A/2006); Kanha Forest range, Mandla dist., M.P. ; 19.i.1991; R.K. Ghose coll.

Distribution : India : Maharashtra, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, Punjab.

Remarks : This species is being reported here for the first time from Kanha Tiger Reserve.

Family THOMISIDAE

2. *Thomisus pugilis* Stoliczka

1869. *Thomisus (Xysticus) (Sic) pungilis* Stoliczka, *J. Asiat. Soc. Bengal*, 38 : 225.

1980. *Thomisus pugilis* : Tikader, *Fauna of India, Spiders*, 1 (1) : 48.

Specimens examined : 1F (Reg. no. A/2004); Forest Rest House, Mukki, Balaghat dist. ; 21.i.1991; R.K. Ghose coll.

Distribution : India : (West Bengal, Tamil Nadu, Punjab, Madhya Pradesh), Pakistan.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

3. *Thomisus cherapungeus* Tikader

1966. *Thomisus cherapungeus* Tikader, *Proc. Indian Acad. Sci.* 64 (1) : 54.

1980. *Thomisus cherapungeus* Tikader *Fauna of India, Spiders*, 1 (1) : 54.

Specimens examined : 1M (Reg. no. A/2166); Kanha Forest range, Mandla dist.; 18.i.1991; R.K. Ghosh coll.

Distribution : India : Meghalaya (Shillong), Madhya Pradesh (Kanha).

Remarks : Reported for the first time from Madhya Pradesh.

Family ARANEIDAE

4. *Argiope aemula* (Walckenaer)

1841. *Epira aemula* Walckemaer, *Hist. Nat. Ins. Apt.* 2 : 118.

1982. *Argiope aemula* : Tikader, *Fauna of India, Spiders*, 2 (1) : 119.

Specimens examined : 6F (Reg. No. A/2042); around forest rest house, Mukki, Balaghat dist. ; 21.i.1991; R.K. Ghosh coll. 1F (Reg. No. A/2043); Mukki, Balaghat dist. ; 24.i.1991; R.K. Ghose coll.

Distribution : India : (Tamil Nadu, Maharashtra, West Bengal, Gujarat, Madhya Pradesh, Andaman and Nicobar Islands). Sri Lanka; Burma; Indo-and Astro-Malaysia.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

5. *Argiope pulchella* Thorell

1881. *Argiope pulchella* Thorell, *Ann. Mus. Civ. Genova* 18 : 74.

1982. *Argiope pulchella*: Tikader, *Fauna of India, Spiders*, 2 (1) : 129.

Specimens examined : 3 F (Reg. No. A/2044); Mukki, Balaghat dist. 24.i.1991; R.K. Ghose coll. 8F (Reg. No. A/2046); Supkhar, Balaghat dist. ; 30.i.1991; R.K. Ghosh coll. 1 F (Reg. No. A/2049); Motinala, Mandla dist. ; 4.ii.1991; R.K. Ghose coll.

Distribution : India : (Andaman & Nicobar Islands, West Bengal, Madhya Pradesh (Kanha), Orissa, Assam, Maharashtra, Tamil Nadu). Burma; Malaya Peninsula.

Remarks : This species is being reported here for the first time from Kanha Tiger Reserve.

6. *Cyclosa hexatuberculata* Tikader

1982. *Cyclosa hexatuberculata* Tikader, *Fauna of India, Spiders*, 2 (1) : 197.

Specimens examined : 7 F, 2 M (Reg. No. A/2104) ; Mukki, Balaghat dist., 25.i.1991; R.K. Ghose coll. 4 F (Reg. No. A/2106); around forest rest house at Mukki, Balaghat dist.; 24.i.1991; R.K. Ghose coll.

Distribution : India : Poona, Maharashtra; Madhya Pradesh.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

7. *Araneus nympha* Simon

1889. *Araneus nympha* Simon, *J. Asia. Soc. Bengal*, 58 : 339.

1982. *Araneus nympha* : Tikader, *Fauna of India, Spiders*, 2 (1) : 235.

Specimens examined : 1M (Reg. No. A/2101); Mukki forest range, Balaghat dist.; 23.i.1991; R.K. Ghosh coll.

Distribution : India : (Himalaya and Madhya Pradesh). Pakistan.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

8. *Neoscona bengalensis* Tikader & Bal

1981. *Neoscona bengalensis* Tikader & Bal, *Rec. zool. Surv. India. Occ. Pap.*, 24 : 15.

1982. *Neoscona bengalensis* Tikader & Bal, *Fauna of India, Spiders*, 2 (1) : 246.

Specimens examined : 2 F (Reg. No. A/2097); Mukki forest range, Balaghat dist.; 24.i.1991; R.K. Ghosh coll. 1F (Reg. No. A/2098); Around Mukki forest rest house, Balaghat dist.; 21.i.1991; R.K. Ghosh coll. 1 F (Reg. No. A/2099) Mukki forest range, Balaghat dist.; 25.i.1991; R.K. Ghose coll.

Distribution : India : West Bengal; Madhya Pradesh.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

Family HERSILIDAE

9. *Hersilia savignyi* Lucas

1836. *Hersilia savignyi* Lucas, *Mag. Zool.*, 8 : 10.

1950. *Hersilia savignyi* : Sinha, *Rec. Indian Mus.*, 48 : 122

Specimens examined : 5 F, Mukki forest range, Balaghat dist., 21.i.1991; R.K. Ghose coll. 4 F (Reg. No. A/2005); Supkhar, Balaghat dist.; 30.i.1991; R.K. Ghose coll.

Distribution : India (Tamil Nadu, Karnataka, Maharashtra, Uttar Pradesh, West Bengal, Assam, Bihar, Orissa, Madhya Pradesh). Sri lanka, Burma, Pakistan.

Remarks : This species is being reported here for the first time from Kanha National Park.

Family LYCOSIDAE

10. *Hippasa pisaurina* Pocock

1900. *Hippasa pisaurina* Pocock, *Fauna British India, Arach.*, : 25.

1924. *Hippasa pisaurina* : Gravely, *Rec. Indian Mus.* 26 : 595.

1980. *Hippasa pisaurina* : Tikader & Malhotra, *Fauna of India, Spiders*, 1 (2) : 300.

Specimens examined : 1F (reg. No. A/2152); Mukki, Balaghat dist. ; 24.i.1991; R.K. Ghosh coll. 1 F, (Reg. No. A/2153) ; Kanha, Mandla dist.; 15.i.1991; R.K. Ghose coll. 1F (Reg. No. A/2154); around forest rest house Mukki, Balaghat dist. ; 23.i.1991; R.K. Ghosh coll.

Distribution : India (Maharashtra, Karnataka, Bihar, Gujarat, Madhya Pradesh). Pakistan; Iraq.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

11. *Hippasa partita* (Cambridge)

1876. *Trochosa partita* Cambridge, *Proc. Zool. Soc. Lond.* : 541.

1924. *Hippasa partita* : Gravely, *Rec. Indian Mus.*, 26 : 588.

1980. *Hippasa partita*: Tikader & Malhotra, *Fauna of India, Spiders*, 1 (2) : 291.

Specimens examined : 2 F (Reg. No. A/2177); Supkhar, Balaghat dist.; 30.i.1991; R.K. Ghose coll.

Distribution : Alexandria; Egypt; Arabia; Central Asia; Pakistan (Karachi) India (Madhya Pradesh).

Remarks : This species is being reported here for the first time from India.

12. *Pardosa annandalei* (Gravely)

1924. *Lycosa annandalei* Gravely, *Rec. Indian Mus.* 26 : 606.

1980. *Pardosa annandalei* : Tikader & Malhotra, *Fauna of India, Spiders*, 1 (2) : 351.

Specimens examined : 2 F, 1 M (Reg. No. A/2181); Kanha forest range, Mandla dist. ; 18.i.1991; R.K. Ghose coll. 1 F, 1M (Reg. No. A/2175); Banjar valley near Mukki, Balaghat dist.; 25.i.1991; R.K. Ghose coll.

Distribution : India (Kerala, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Bihar, West Bengal, Manipur, Assam, Gujrat. Bangladesh) Burma; Pakistan.

Remarks : This species is being reported here for the first time from Kanha Tiger Reserves.

13. *Pardosa sumatrana* (Thorell)

1890. *Lycosa sumatrana* Thorell, *Ann. Mus. stor. nat. Genova*, 30 : 136.

1980. *Pardosa sumatrana* Tikader & Malhotra, *Fauna of India, Spiders*, 1 (2) : 353.

Specimens examined : 5 F, 2 M (Reg. No. A/2147); Motinala, Mandla dist.; 1.ii.1991; R.K. Ghose coll. 7 F, 4 M (Reg. No. A/2168); Forest rest house, Mukki, Balaghat dist.; 21.i.1991; R.K. Ghose coll. 1F, 1M (Reg. No. A/2171) Kanha forest range, Mandla dist.; 18.i.1991; R.K. Ghose coll.

Distribution : India (Kerala, Karnataka, Tamil Nadu, Bihar, Himachal Pradesh, West Bengal, Meghalaya, Rajasthan, Gujrat, Madhya Pradesh, Arunachal Pradesh). Bangladesh; Sumatra; Sri Lanka.

Remarks : This is a common species and reported here for the first time from Balaghat district, Madhya Pradesh.

14. *Pardosa birmanica* Simon

1884. *Parodsa birmanica* Simon, *Ann. Mus. civ. stor. nat. Genova*, 20 : 333.

1980. *Pardosa birmanica*: Tikader & Malhotra, *Fauna of India, Spiders*, 1 (2) : 329.

Specimens examined : 8 F, 5 M (Reg. No. A/2149) ; Motinala, Mandla dist.; 1.ii.1991; R.K. Ghose coll.

Distribution : India (Maharashtra, Punjab, West Bangal, Orissa, Uttar Pradesh, Rajasthan, Gujrat, Himachal Pradesh, Madhya Pradesh, Meghalaya, Bihar, Tamil Nadu, Andhra Pradesh). Burma; Java; Pakistan.

Remarks : This is a common species throughout India.

CRUSTACEA : OSTRACODA

An account of ostracod crustaceans of Kanha Tiger Reserve, Madhya Pradesh, consisting of 7 species under 6 genera, 4 subfamilies and 2 families are provided hereunder. Among these ostracods, 2 species were hitherto unknown from Madhya Pradesh and at least one species appears to be a new record from India.

Order PODOCOPIDA

Family CYPRIDIDAE

Subfamily CYPRIDINAE

1. *Strandesia weberi* (Móniez)

1892. *Cypris weberi* Moniez, *Zoologische Ergebnisse Niederländisch Ost-Indien*, P. 129.

Material : 4 F (reg No. A/2139). Mukki, Balaghat dist.; 23.i.91; R.K. Ghose coll.

Distribution in India : Except for the present material no reports are available from India.

Distribution in other countries : Sri Lanka, Malaysia, Philippines and Indonesia.

Remarks : This species is recorded for the first time from M.P. as also from India. Population, food habits etc. not studied.

2. *Strandesis purpurascens* Brady

1896. *Strandesia purpurascens* Brady, *J. Linn. Soc. Lond.*, 19 : 298.

Material : 9 F (Reg. No. A/2091); Mukki, Balaghat dist. ; 23.i.91; R.K. Ghose coll.

Distribution in India : Madurai and surrounding area in Tamil Nadu; Kanha Tiger Reserve, Madhya Pradesh.

Distribution in other countries : Sri Lanka, Malaysia, Indonesia and Thailand.

Remarks : The present material constitutes its first record from M.P.

3. *Cypris subglobosa* Sowerby

1859. *Cypris subglobosa* Sowerby.

Material : 7F(Reg. No. A/2090); A pond is Mukki village, Balaghat dist; 23.i.91;R.K. Ghose coll.

Distribution in India : Nagpur in Maharashtra; Chittoor, Guntur, Yaman in Andhra Pradesh, Trichy and Kanyakumari in Tamil Nadu; Trivandrum in Kerala; Jabalpur, Sagar, Bastar and Shahdol in Madhya Pradesh.

Distribution in other countries : Indonesia, Malaysia, Philippines.

Subfamily CYPRINOTINAE

4. *Hemicypris Pyxidata* Moniez

1892. *Hemicypris pyxidata* Moniez, *Eng. Niederlandish Ost. Indien*, 2 : 134.

Material : 12F (Reg. No. A/2091); Motinala, Balaghat dist; 3.ii.91; R.K. Ghose coll.

Distribution in India : Madurai in Tamil Nadu; Kanha Tiger Reserve, Madhya Pradesh.

Distribution in other countries : Sumatra and Sri Lanka.

Remarks : The present material from Kanha constitutes its first record from Madhya Pradesh.

Subfamily DOLEROCYPRIDINAE

5. *Tanycypris pellucida* (Klie)

1932. *Dolerocypris pellucida* Kile, *Archiv für Hydrobiologie*, suppl., 11 : 482.

Material : 3 F (Reg. No. A/2094) ; Kanha, Mandla dist.; 18.i.91; R.K. Ghose coll.

Distribution in India : Shahdol, Jabalpur and Kanha Tiger Reserve, Madhya Pradesh.

Distribution in other countries : Philippines and Malaysia.

6. *Stenocypris major* (Baird)

1859. *Cypris cylindrica major* Baird.

Material : 14 F (Reg. No. A/2905); Mukki, Balaghat dist. 23.i.91; R.K. Ghose coll.

Distribution in India : Madurai, Trichy, Tamnad, Madras in Tamil Nadu; Mysore in Karnataka; Guntur and Hyderabad in Andhra Pradesh; Trivandrum in Kerala; Girnar Reserve in Maharashtra; Bhopal, Jabalpur and Kanha Tiger Reserve in Madhya Pradesh.

Distribution in other countries : Philippines, Malaysia, Indonesia, Japan, Sri Lanka, Sumatra and Europe.

Family CYPRIDOPSIDAE

Subfamily CYPRIDOPSINAE

7. *Pseudocypretta maculata* Kile

1932. *Pseudocypretta maculata* Kile, *Arch. für Hydrobiologie*, suppl., 11: 485.

Material : 7F (Reg. No. A/2141); Kanha, Mandla dist.; 19.i.91; R.K. Ghose coll.

Distribution : India : Trivandrum in Kerala; Madras in Tamil Nadu; Jabalpur and Kanha Tiger Reserve in Madhya Pradesh.

Distribution in other countries : Africa, Sri Lanka, Sumatra and Java.

MOLLUSCA

INTRODUCTION

This report deals with the molluscan fauna of Kanha Tiger Reserve and is based on collections made by the tour parties of the Zoological Survey of India, though some work on the molluscs of Madhya Pradesh has already been done by Agrawal (1976, 1977) and Agrawal and Mathur (1978). Since nothing is known about the molluscan fauna of Kanha National Park, an attempt has been made to place on record the various species available in the area and as such this is the first report on the mollusca fauna of Kanha National Park. One of the important objects of the investigation was to conduct a status survey of this group, very important from economic point of view and wildlife conservation. Altogether eight genera and eleven species referable to seven families are dealt with. Brief ecological notes, wherever possible, are included under respective species.

All the specimens have been deposited in the National Zoological Collections and registered. The registration number is given in brackets against examples.

Abbreviations used : Dist. = District; Ex (S). = Example (S) ; Coll.= Collector.

SYSTEMATIC ACCOUNT

Class GASTROPODA

Subclass PROSOBRANCHIA

Order MESOGASTROPODA

Family PILIDAE

Genus (i) *Pila* (Bolten) Roeding, 1798

1798. *Pila* (Bolten) Roeding, *Museum Boltenianum*, Pt. 2, P. 145. (Type species : *Helix ampullacea* S. D. Dall).

1. *Pila Virens* (Lamarck, 1822)

1822. *Ampullaria virens* Lamarck, *Hist. nat. Anim. Sans. vert.*, (6) (2) : 179. (Type locality : Not known).

1925. *Pila virens* : Prashad, *Mem. Indian Mus.*, 8 : 75, pl XIV, Fig. 13.

Material : 1 ex., (iv 793A); Shrawantal, Kanha Forest Range, Mandla dist.; 16.i.1991; R. K. Ghose coll.

Distribution : Kanha National Park, as mentioned above.

Remarks : Variable in its colour and shape of spire; spire is prominent. Amphibious, mantle cavity has monopectinate gill and one side of which is modified into a pulmonary sac.

Family THIARIDAE

Sub-Family THIARINAE

Genus (ii) *Thiara* Roeding 1798

1798. *Thiara* Roeding, *Museum Boltenianum*, 2 : 109. (Type species : *Helix amarula* Linnaeus).

Subgenus *Tarebia* H. and A. Adams, 1854

2. *Thiara (Tarebia) lineata* (Gray, 1828)

1828. *Helix lineata* Gray, *Wood's Indix Test. Suppl.*, p. 24, fig. 68. (Type locality : Ganges).

1915. *Thiara (Tarebia) lineata*: Preston, *Fauna Brit. India, Mollusca*, p. 34.

Material : 1 ex. (iv 830), Kanha, Chuharinala, Mandla dist; 28.ix 1986; R. K. Singh. coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : India (West Bengal, Bihar, Madhya Pradesh, Uttar Pradesh, Maharashtra, Assam). Bhutan; Burma; Sri Lanka.

Remarks : Earlier this species was treated as variety of *T. granifera*. It can be distinguished by the presence of distinct dark spiral lines and absence of nodules.

Subgenus *Melanoides* Olivier, 1807

3. *Thiara (Melanoides) tuberculata* (Mueller, 1774)

1774. *Nerita tuberculata* Mueller, *Hist. Verm. Terr. Fluv.*, 2 : 191. (Type locality : Coromandel Coast).

1976. *Melanoides (Melanoides) tuberculatus*: Starmuehler, *Ann. Natur. Hist. Mus. Wien.*, 80 : 591.

1989. *Thiara (Melanoides) tuberculata*: Raso, *Handbook Freshwater molluscs of India*,. 103.

Material : 1 ex. (iv 831), Kanha, Chuharinala, Mandla dist; 28.ix 1986; R. K. Singh coll.

Distribution : Kanha National Park as mentioned above. Elsewhere : India; North and South Africa; Eastern Mediterranean countries; South east Asia; Malaysia; Malay Archipelago; Southern China, North Australia, Pacific Islands, New Hebrides, north to the Ryukyu Islands of Japan.

Remarks : Shell with high spire, red-brown dots and flames, sculptured with vertical ribs and spiral striae.

In the evening and night they feed on algae and organic waste matter from animals. A number of cercariae are reported from this snail.

Subclass PULMONATA

Order BASOMMATOPHORA

Family LYMNAEIDAE

Sub-Family LYMNAEINAE

Genus (iii) *Lymnaea* Lamarck, 1799

1799. *Lymnaea* Lamarck, *Prodr. Nouv. Clas. Cog.*, p. 75. (Type species : *Limnaea stagnalis* Linnaeus)

Since the genus *Lymnaea* exhibits a higher degree of plasticity and individual variations, Hubendick (1951) revised the family using the biological species concept and reduced the number of species from over a thousand to forty.

Annandale and Rao (1925) recognised 20 species and many forms and varieties. Further studies are needed to establish the status of each species. However, according to International Cods of Zoological Nomenclature (1963) forms of varieties are no more valid.

Subgenus *Pseudosuccinea* Baker, 1908

Baker (1908) erected *Pseudosuccinea* as a genus for succinea-like forms, but Annandale and Rao (1925) made it a sub-genus of *Lymnaea*.

4. *Lymnaea acuminata* Lamarck, 1822

1822. *Limnaea acuminata* Lamarck, *Hist. nat. Anim. Sans. Vert.*, 6 (2) : 160. (Type locality : Bengal).

1969. *Lymnaea acuminata*: Ray and Mukherjee, *Rec. Zool. Surv. India*, 61 (3 and 4) : 425.

Material : 6 exs. (iv 794), Shrawantal, Kanha Forest Range, Mandla dist; 16.i.1991..2 exs. (iv 800), Supkhar, Balaghat dist; 28.i.1991; R. K. Ghose. coll.

Distribution : Kanha National Park as mentioned above. Elsewhere : Throughout India. Nepal; Pakistan; Bangladesh and Burma.

Remarks : Shell ovately oblong and thin with fine closeset transpiral striation; spire is short, narrow with attenuated whorls forming a pointed apex. Body whorl clerly demarcated from the spise.

Specimens inhabit ponds and pools containing aquatic vegetation and remain attached to the stones, petioles and leaves. This species is the carrier of treamatode parasites, such as *Fasciola hepatica*, *F. gignatica*, *Schistosoma nasalis*, *S. indicum*, *S. spindalis*, etc.

5. *Lymnaea luteola* Lamarck, 1822

1822. *Limnaea luteola* Lamarck, *Hist. nat. Anim. Sns. Vert.*, 6 (2) : (Type locality : Bengal.)

1969. *Lymnaea luteola*: Ray and Mukherjee, *Rec. zool. Surv. India*, 61 (3-4) : 427.

Material : 1 ex. (iv 799), 23 exs. (iv 795), Kanha Forest Range, Mandla dist.; 14-16.i.1991; 1 ex. (iv 798). 7exs. (iv 796, 797), Motinala, Mandla dist.; 1-3.ii.1991; R. K. Ghose coll. 1 ex. (iv 829), Kanha. Menharnala, Balaghat dist.; 28.xi.1986; 3 exs. (iv 828), Mukki, Sodha tank, Balaghat dist.; 1.xii.1986; R. K. Singh coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Throughout India. Sri Lanka; Burma; Pakistan and Nepal.

Remarks : Spire is not much acuminated; shell more ovate with a narrow ovate aperture.

The species is less variable than *Lymnaea acuminata*. The species can tide over the unfavourable conditions by burying itself in the mud.

This snail also serves as the intermediate host of some parasites of cattle, dog, pig, etc. eg. *Schistosoma indica*, *S. suis*, *S. spindalis*, *S. incognitum*, *S. nasalis*, *Fasciola hepatica*, *F. gigantica*, *Fchinoparyphium bugulai*, *Fchinostoma revolutum*, *Clinostomum giganticum*, *Orientobilharsia dattae*.

Family PLANORBIDAE

Subfamily BULININAE

Genus (iv) *Indoplanorbis* Annandale and Prashad, 1921

1921. *Indoplanorbis* Annandale and Prashad, *Rec. Indian Mus.*, **22** (4) : 578. (Type species : *Planorbis exustus* Deshayes).

6. *Indoplanorbis exustus* (Deshayes, 1834)

1834. *Planorbis exustus* Deshayes, *Voy. Indes-Orientales*, p. 417, pl.1, figs.11-13. Type locality : Malabar Coast.

1956. *Indoplanorbis exustus*: Benthern Jutting, *Treubia*, **23** (2) : 471.

Material : 12 exs. (iv 790, iv 793) ; Shrawantal, Kanha Forest Range, Mandla dist.; 16-18.i.1991; 150 exs. (iv 791, 792); Motinala, Mandla dist.; 3. ii. 1991; 14 exs. (iv 801, iv 825, iv 828); Supkhar, Balaghat dist.; 28.i.1991; R. K. Ghose coll. 5 exs. (iv 825, iv 826); Supkhar, Chhilpura tank, Balaghat dist.; 1.xii.1986; 3 exs. (iv 827) ; Mukki, Sodha tank, Balaghat dist.; 1. xii. 1986; R. K. Singh coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Throughout the plains of India, Jammu and Kashmir. Pakistan, Iran, Burma, Sri Lanka, Vietnam, Malaya, Thailand, Sumatra, Java, Celebes.

Remarks : Shell thick and large, sutures deep, aperture somewhat ear-shaped. Foot leaf-shaped, comparatively short and broad, branchial process lobed. No penial stylet. Annandale and Prashad (1921) described the impact of ecological changes on this species.

Maximum number of cercariae have been recorded from this snail.

Order STYLOMMATOPHORA

Family ARIOPRANTIDAE

Subfamily ARIOPHANTINAE

Genus (v) *Ariophanta* Desmoulins, 1829

1829. *Ariophanta* Desmoulins, *Bull. Soc. Bordeanx*, iii, P. 235. pl. i. figs. 1-5. (Type species : *Ariophanta laevipes* Mill).

7. *Ariophanta laevipes* Mill, 1774

1774. *Ariophanta laevipes* Mill., *Hist. Ver.*, ii : 22.

Material : 7 ex. (iv 823, iv 824); 22-24.i.1991; Mukki, Balaghat dist.; R. K. Ghose coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Bombay, Rajpipla hills, east of Surat.

Remarks : Shell thin, depressed, obliquely striated, whitish with three spiral chestnut bands; spire low, whorls five, slightly convex. Peristome slightly thickened and reflected below.

Class BIVALVIA

Order UNIONOIDA

Superfamily UNIONACEA

Family UNIONIDAE

Subfamily UNIONINAE

Genus (vi) *Lamellidens* Simpson, 1900

1900. *Lamellideans* Simpson, *Proc. U. S. natn. Mus.*, (Washington), **22** : 854. (Type species : *Unio marginalis* Lamarck).

8. *Lamellidens marginalis* (Lamarck, 1819)

1819. *Unio marginalis* Lamarck, *Hist. nat. Anim. Sans. Vert.*, **4** : 79 (Type locality : Bengal).

1900. *Lamellidens marginalis* : Simpson, *Proc. U. S. natn. Mus.*, **22** : 854.

Material : 1 ex. (iv 803), Mukki Forest Range, Balaghat dist.; 21. i. 1991. 2exs. (iv 802); Supkhar, Balaghat dist.; 28. i. 1991; R. K. Ghose. coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Widely distributed in India. Sri Lanka, Burma and Bangladesh.

Remarks : Shell oblongly ovate, twice, as long as high; dorsal margin behind the umbo appears as wing-like expansion. Adductor impressions and pallial line typical. Gills much broader in posterior half.

Animals are ovo-viviparous and prolific breeders; inactive, burying themselves obliquely head downwards in the mud at the bottom of ponds and streams.

Subfamily PARREYSIINAE

Genus (vii) *Parreysia* Conrad, 1853

1853. *Parreysia* Conrad, *Proc. Acad. nat. Sci. Philad.*, **6** : 267. (Type species : *Unio multidentatus* Philippi).

Ortmann (1910) distinguished this genus from others and similar to *Quadrula*. Preston (1915) gave 20 species and varieties of *Parreysia*. No attempt has been made so far to give a systematic revision of the genus.

9. *Parreysia corrugata* (Mueller, 1774)

1774. *Mya corrugata* Mueller, *Verm. Terr. et. Flum.*, pl. 2, p. 214. (Type locality : Rivers of Coromandel).

1900. *Parreysia corrugata*: Simpson, *Proc. W. S. natn. Mus.*, **22** : 841.

Material : 3 exs. (iv 304), Sukhar, Balaghat dist.; 28.i.1991; R. K. Ghose coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : India : Andhra Pradesh, Bihar, Karnataka, Maharashtra, Punjab, Gujarat, Orissa, Assam. Bangladesh.

Remarks : Shell olive-green, elliptical, smooth, valves as long as high sculptured with radiating oblique ridges, lunule well marked; cardinal teeth not lamellar.

Family CORBICULIDAE

Subfamily CORBICULINAE

Genus (viii) *Corbicula* Megerle von Muehlfeld, 1811

1811. *Corbicula* Megerle von Muehlfeld, *Mag. Gesell. Naturf.* Berlin, 5 : 56. (Type species : *Tellina fluminalis* Mueller).

Prashad (1928) revised the Asiatic species including those from India.

10. *Corbicula striatella* Dashayes, 1854

1854. *Corbicula striatella* Dashayes, *Proc. zool. Soc. Lond.*, 22 : 344. (Type locality : Pondicherry)

Material : 1 ex. (iv 805 A), Mukki Forest Range, Balaghat dist.; 21.i. 1991; R. K. Ghose coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Through India, Burma and Pakistan.

Remarks : Shell triangularly ovate and thick, Umbones prominent, Striae regular, concentric and raised into ridges. Lateral teeth plate-like and elongated.

11. *Corbicula occidens* Deshayes, 1854

1854. *Corbicula occidens* Deshayes, *Cat. Prit. Mus. Conchifera*, p. 223. (Type locality : Sikkim).

Material : 1 ex. (iv 805), Mukki Forest Range, Balaghat dist.; 21.i. 1991; R. K. Ghose; coll.

Distribution : Kanha National Park, as mentioned above. Elsewhere : Madhya Pradesh, Bengal, Bihar, Assam, Orissa, Uttar Pradesh (Moradabad) and Sikkim.

Remarks : Shell very small, ovate and equilateral greenish-brown, concentrically striated. Umbones bear a dark violet radially widening coloured band medially, two narrow dark bands diverge radially from umbo. Pallial sinus not properly marked.

SUMMARY

The present communication is the first report of the molluscs of Kanha National Park, Madhya Pradesh. A total of eleven species belonging to eight genera and seven families are recorded and studied. Brief ecological notes and variations, wherever possible are included under respective species. Notes on distribution of each species is made as complete as possible.

ACKNOWLEDGEMENT

My sincere thanks are due to the Officer-in-Charge of this Regional Station for providing the necessary help and facilities to carry out this work.

REFERENCES

- Agrawal, H. P. 1976. Report on the land molluscs of Jabalpur (Mollusca : Stylommatophora). *Newsl. zool, Surv. India*, **2** (3) : 105-107.
- Agrawal, H. P. 1977. A report on Molluscs from Madhay National Park, Shivpuri, Madhya Pradesh. *Ibid.*, **3** (5):284-287
- Agrawal, H. P. and Mathur, D. S. 1978. On a collection on Molluscs from Sarguja (M. P.). *Indian J. Zootomy*, **XIX** (2) : 121-124.
- Annandale, N. and Prashad, B. 1921. Materials for a generic revision of the freshwater gastropod molluscs of the Indian Empire, *Rec. Indian Mus.*, **22** : 1-6.
- Annandale, N. and Rao, H. S. 1925. Materials for a revision of recent Indian Limnacidæ (Mollusca : Pulmonata). *Rec. Indian Mus.*, **27** : 137-189.
- Baker, F. C. 1908. *Science*, N. S. **27** : 943.
- Hubendick, B. 1951. Recent Lymnaeidae. Their variation, morphology, taxonomy, nomenclature and distribution. *K. Svenska Vetenskapsakad. Handl.*, (Ser. 4) **3** : 1-223.
- Ortmann, A. E. 1910. A new system of the Unionidae. *Nautiolue*, **23** (9) : 114-120.
- Prashad, B. 1928. Revision of the Asiatic species of the genus *Corbicula*. The Indian species of *Corbicula*. *Mem. Indian Mus.*, **9** : 13-27, pl. III-IV.
- Preston, E. B. 1915. *The Fauna of British India including Ceylon and Burma, Mollusca* (Freshwater Gastropoda and Pelecypoda). Taylor and Francis, London.

PISCES

INTRODUCTION

The present paper deals with the fish collection made from the Kanha Tiger Reserve and adjoining areas of Madhya Pradesh By Dr. R. K. Ghose in 1991. The collection is represented by 3 orders, 4 families, 7 genera, 10 species and 139 examples. The species *Noemacheilus sikmaiensis* Hora which is known from Manipur and Meghalaya has been reported for the first time from Madhya Pradesh.

So far known earlier works on fishes of Madhya Pradesh are by Dubey and Mehra (1954), Hora (1938, 1940), Soni (1959, 1960), Karmakar and Dutta (1988), etc. The fish collections mentioned above have been worked out taxonomically and arranged systematically specieswise with their earliest and latest valid references, number of examples examined, their range ratio, locality, date of collection, name of collector, geographical distribution and scientific remarks.

SYSTEMATIC ACCOUNT

Class PISCES

Order CYPRINIFORMES

Family CYPRINIDAE

1. *Puntius sophore* (Hamilton)

1822. *Cyprinus sophore* Hamilton, *Fish, Ganges*, pp. 310, 389, pl. 19, fig. 86 (Type locality : Ponds and rivers in the Gangetic provinces).

1985. *Puntius sophore*: Sen, *The fish fauna of Assam and the neighbouring N.E. States of India*, *Rec. zool. Surv. India*, Occ. Paper No. 64, p.78.

Material examined : 6 exs.; 1.5-3.5 cm; Shrawantal, Kanha, Mandla Dist., M.P.; 16 Jan 1991; R.K. Ghose coll.

Distribution : Freshwaters throughout India, Bangladesh, Pakistan, Burma, Nepal and S.China.

Remarks : Lives in both clear as well as foul waters, even in adverse conditions inside silt, with thick bed of aquatic weeds. They are voracious eaters of floating organisms and aquatic plants.

2. *Danio (D) aequipinnatus* (Mc Clelland)

(Giant Danio)

1839. *Perilampus aequipinnatus* Mc Clelland, *Asiat.Res.*, 19 (2), p. 393, pl. 60, fig. 1 (Type-locality : Assam).

1985. *Danio (D) Aequipinnatus*: Sen, *The fish fauna of Assam and neighbouring N.E. States of India, Rec. zool. Surv. India, Occ. Paper No. 64 p. 42.*

Material examined : 60 exs.; 1.5-2.5 cms Mukki, Balaghat Dist., M.P.; Jan. 1991; R.K. Ghose coll.

Distribution : Freshwaters throughout India, Sri Lanka, Bangladesh, Burma and Thailand.

Remarks : An ideal aquarium fish of attractive colour; commercially found in clear waters and hill-streams.

3. *Danio (B) rerio* (Hamilton)

1822. *Cyprinus rerio* Hamilton, *Fish, Ganges*, p. 323 (Type locality : Koshi river).

1985. *Danio (B) rerio*: Sen, *The fish fauna of Assam and the neighbouring N.E. States of India, Rec. zool. Surv. India, Occ. Paper No. 64, p. 43.*

Material examined : 6 exs.; 1.5-4.0 cm; Mukki, Balaghat district, M.P.; Jan. 1991; R.K. Ghose coll.

Distribution : India, Bangladesh and Burma.

Remarks : A popular aquarium fish fancied by its attractive colour.

4. *Rasbora daniconius* (Hamilton)

(Common Rasbora)

1853. *Cyprinus daniconius* Hamilton, *Fish, Ganges*, p. 327, pl. 15, fig. 89 (Type locality : Rivers of southern Bengal).

1985. *Rasbora daniconius*: Sen, *The fish fauna of Assam and the neighbouring N.E. States of India, Rec. zool. Surv. India, Occ. Paper No. 64, p. 45.*

Material examined : 1 ex; 4.5 cm; Shrawantal, Kanha, Mandla Dist., M.P. ; 16 Jan. 1991; R.K. Ghose coll. 6 ex; 2.5-3.5cm, Supkhar, Balaghat Dist., M.P.; 28 Jan. 1991; R.K. Ghose coll.

Distribution : Throughout India, Bangladesh, Pakistan, Burma, Sri Lanka and Malaya.

Remarks : Lives in streams, pools, ponds, canals, paddy-fields (during monsoon months).

5. *Esomus danricus* (Hamilton)

1822. *Cyprinus danricus* Hamilton, *Fish, Ganges*, pp. 325, 390, pl. 16, fig. 88 (Type locality : Ponds and ditches of Bengal).

1985. *Esomus danricus*, Sen, *The fish fauna of Assam and the neighbouring N.E. States of India, Rec. zool. Surv. India, Occ. Paper No. 64, p. 44.*

Material examined : 37 exs.; 2.0-5.0 cm; Mukki, Balaghat dist., M.P.; 21 Jan. 1991; R.K. Ghose coll.

Distribution : India : West Bngal, Assam, Madhya Pradesh, Uttar Pradesh, Punjab, Bihar, Orissa, Madras, Gujarat. Also. Bangladesh, Pakistan, Burma, Sri Lanka, Thailand and Malaya.

Remarks : It is a larvicidal fish and commonly found in road-side ditches, canals, pools, streams and ponds.

6. *Noemacheilus sikmaiensis* Hora

1921. *Nemacheilus sikmaiensis* Hora, *Rec. Indian Mus.*, 22, p. 201, pl. 9, fig. 4, pl. 10, figs. 1, la (Type locality : Sikmai stream near Patel, Manipur).

1987. *Neomachelus sikmaiensis* Menon, *Fauna of India : Cobitoidea, Homalopteridae* pt. 1, p. 125, figs. 4&5, pl. 3.

Material examined : 1 ex; 3.5 cm; Mukki, Balaghat Dist., M.P.; 21 Jan. 1991; R.K. Ghose coll.

Distribution : India : Meghalaya and Manipur. The present collection from Mukki extends its distributional range from Meghalaya to Madhya Pradesh in India.

Remarks : 12 to 13 distinguishing black rings around the body. Lives in hill-streams, torrential streams, etc.

Family COBITIDAE

7. *Lepidocephalus (L) guntea* (Hamilton)

1822. *Cobitis gunlea* Hamilton, *Fish. Ganges*, pp. 353, 394 (Type locality : Ponds and freshwaters of Bengal).

1985. *Lepidocephalus (L) guntea*: Sen, *The fish fauna of Assam and the neighbouring N.E. States of India*, *Rec. zool. Surv. India*, Occ. Paper No. 64, p. 112, fig. 55.

Material examined : 1 ex.; 5.0 cm; Shrawantal, Kanha, Mandla Dist., M.P.; 16 Jan. 1991; R.K. Ghose coll. 2 exs.; 4.5-5.0 cm; Supkhar, Balaghat Dist., M.P. ; 28 Jan 1991; R.K. Ghose coll. 2 exs.; Mukki, Balaghat Dist., M.P.; 21 Jan. 1991; R.K. Ghose coll.

Distribution : All over India except Karnataka, Kerala, South of Krishna river. Nepal and Bangladesh.

Remarks : Taken as food by poor people. Lives in torrential streams, rivers and pools at the bottom of water falls.

Order PERCIFORMES

Family NANDIDAE

8. *Badis badis* (Hamilton)

(Mud-perches)

1821. *Labrus badis* Hamilton, *Fish Ganges*, pp. 70. 368, pl. 25, fig. 23 (Type locality : Gangetic provinces).

1985. *Badis badis*: Sen, *The fish fauna of Assam and the neighboring N.E. States of India*, *Rec. zool. Surv. India*, Occ. Paper No. 64, p. 192, fig. 102.

Material examined : 9 exs.; 2.5-4.5 cm; Shrawantal, Kanha, Mandla Dist., M.P.; 16 Jan. 1991; R.K. Ghose coll.

Distribution : Throughout India, Pakistan, Bangladesh, Nepal, Burma.

Remarks : Not commonly found. Small woody fish of no economic importance. Lives in beels, marshy wetlands.

Order CHANNIFORMES

Family CHANNIDAE

9. *Channa orientalis* Schneider

(Brown Snake-head or Cheng)

1801. *Channa orientalis* Schneider, *Syst. Ichth. Bloch*, p. 496, pl. 90, fig. 2 (Type locality : India).

1974. *Channa orientalis*: Menon, *A. checklist of the Himalayan and Indo-Gangetic plains*, Spl. Pub. No. 1, *Inld. Fish. Soc. India*, p. 89.

Material examined : 5 exs.; 4.5-6.5 cm, Shrawantal, Kanha, Mandla Dist., M.P. ; 16 Jan. 1991; R.K. Ghose coll.

Distribution : India, Sri Lanka, Bangladesh, Pakistan, Burma, Thailand, Indo-China, Malaya, Malaya-Archipelago and Taiwan.

Remarks : Lives in road side ditches, nallahs, tanks, beels, etc. Commercially less important.

10. *Channa punctata* (Bloch)

(Green Snake-head or Lata)

1873. *Ophiocephalus punctatus* Bloch, *Naturges, Auland Fische*, 7, p. 193, pl. 358 (Type locality : Coromandel coast)

1985. *Channa punctata*: Sen, *The fish fauna of Assam and the neighbouring N.E. States of India*, *Rec. zool. Surv. India*, Occ. Paper No. 64, p. 182.

Material examined : 1 ex; 7.5 cm; Mukki, Balaghat dist., M.P.; 21 Jan. 1991; R.K. Ghose coll.

Distribution : India, Nepal, Burma, Malay, Bangladesh, Pakistan, China, Tahiti and Polynesia.

Remarks : Lives in rivers, beels, tanks, road-side ditches, nallahs and lakes. Commercially less important.

REFERENCES

- Day, F. 1875-78. *The fishes of India*, XX + 778 pp, 195 pls.London.
- Dubey, G.P. and Mehra, R.K. 1959. Fishes and fisheries of Chambal River. *Proc. First All India Congr. Zool.*, pp.647-665, 1 map.
- Hora, S.L. 1938. Notes on fishes in the Indian Museum. 37. On collection of fishes from Bailadila range, Bastar State, Central Provinces. *Rec. Indian Mus.*, 40 (3) : 237-241.
- Hora, S.L. 1940. On a collection of fish fauna from the head waters of the Mahanandi river, Riper district, C.P. *Rec. Indian Mus.*, 42 (2) : 365-375.
- Jayaram, K.C. 1981. The freshwater fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka. Handbook No. 2. Zoological Survey of India, Calcutta.
- Karmakar, A.K. and Dulla, A.K. 1988. On a collection of fish from Bastar District, Madhya Pradesh, *Rec. zool.Surv. India.*, Occ. Paper No. 98, pl. 1-50.
- Misra, K.S. 1962. An aid to the identification of common commercial fishes of India and Pakistan. *Rec. Indian Mus.*, 57 (1-4) : 1-320.
- Menon, A.G.K. 1987. *The fauna of India and the adjacent countries*. Cobitoidea, Homalopteridae:: Noemachelinae. Vol. 4, Pt. 1. Zoological Survey of India, Calcutta.
- Sen, T.K. and Jayram, K.C. 1982. The Mahseer Fishes of India : A review. *Rec. zool. Surv. India*, Occ. Paper No. 39 : 1-36.
- Soni, D.D. 1959 (1962). Fish fauna of Bhopal lower lake. *Proc.First All India Congr. Zool.*, pp. 639-641.
- Soni, D. D. 1960. Fish fauna of Bhopal upper lake. *Proc. Indian Sci.* 47 (3) : 477.

AMPHIBIA

INTRODUCTION

Literature so far available indicate that very little information is available on the amphibian fauna of Madhya Pradesh, including Kanha Tiger Reserve. However, Saksena et al. (1988), Inger and Dutta (1988) and Sanyal et al. (in press) reported some species of amphibians from Madhya Pradesh.

This paper deals with a small collection of amphibians made from Kanha Tiger Reserve of Madhya Pradesh by Dr. R. K. Ghose, in 1991. A total of five species belonging to three genera and two families have been reported from the area.

Class AMPHIBIA

Order ANURA

Family BUFONIDAE

Genus *Bufo*

Bufo melanostictus Schneider

(Common Indian Toad)

1799. *Bufo melanostictus* Schneider, *Hist. Amph.*, 1 : 216.

1985. *Bufo melanostictus* Schneider : *Frost, Amphibian species of the world* : 54.

Material examined : 1 ex; Kanha, Mandla Dist.; 14 Jan. 1991 ; R. K. Ghose coll.

Measurement : 85 mm from snout to vent.

Distribution : Common throughout Sri Lanka, India, Burma, Southern China, Malaya Peninsula and Archipelago.

Remarks : It is nocturnal in habit, but during breeding season can be seen both during the day and night. The species occurs in almost all the biotopes, even up to c 3048 m. in the Himalayas.

Family RANIDAE

Genus *Rana* Linnaeus

Rana limnocharis Weigmann

(Paddy field frog)

1835. *Rana limnocharis* Weigmann, *N. Acta Leop Carol*, 16 (1) : 255.

1985. *Rana limnocharis* : *Frost, Amphibian species of the world* : 500.

Material examined : 2 exs.; Shrawantal, Kanha, Mandla dist.; 16 Jan. 1991; R. K. Ghose coll.

Measurements : 48-50 mm from snout to vent.

Distribution : Sri Lanka : throughout the Indian region; Pakistan and eastern Asia from Japan to China.

Remarks : Widely distributed throughout India and abundantly found near tanks, streams and marshes. During nonsoon, the Paddy Field Frog weeder far and wide in the grasses both during day and night. It is a voracious feeder and mainly takes insects and their larvae. It may breed throughout the year if the conditions are suitable.

***Rana* cyanophlyctis* Schneider**

(Skipper frog)

1799. *Rana cyanophlyctis* Schneider, *Hist. Amph.*, 1 : 137.

1985. *Rana cyanophlyctis* : Frost, *Amphibian species of the world* : 487.

Material examined : 2 exs.; Motinala, Mandla dist.; 1 Feb. 1991; R. K. Ghose coll.

Measurements : 48-50 mm from snout to vent.

Distribution : Iran; throughout India; Sri Lanka; Nepal and Thailand.

Remarks : It is aquatic, remains active during day and night; a common frog in water pool, tanks, rain water puddles, etc. It has a peculiar habit of skipping over the surface of water. It is also a voracious eater like the above species and mainly eat insects, little frogs, tadpoles and insect larvae.

***Rana tigerina* Daudin**

(Indian Bull frog)

1803. *Rana tigerina* Daudin, *Hist. Nat. Gren. Crap.*, p. 64.

1985. *Rana tigerina* : Frost, *Amphibian species of the world* : 518.

Material examined : 1 ex; vicinity of Banjar River, Mukki; 25 Jan. 1991; R. K. Ghose coll.

Measurements : 63 mm from snout to vent.

Distribution : Sri Lanka, throughout India, Nepal, Burma, Thailand, S. China and Taiwan.

Remarks : This common species of India is of high commercial importance and is found in the vicinity of tanks, streams, edges of ponds and marshes. Occasionally they are also found in permanent or semi permanent water bodies.

* Species under genus *Rana* are included in Schedule IV of the Indian Wildlife (Protection) Act, 1972.

Family MICROHYLIDAE

Genus *Microhyla* Tschudi

Microhyla ornata (Dumeril and Bibron)

(Ornate Microhylid)

1841. *Engystoma ornatum* Dum. and Bibron, *Erpet. Gen.*, 8 : 745.

1985. *Microhyla ornata* : Frost. *Amphibian species of the world* : 387.

Material examined : 1 ex; Motinala, Mandla dist.; 1 Feb. 1991; R. K. Ghose coll.

Measurements : 19 mm from snout to vent.

Distribution : It is a widely distributed species of India and found up to an alt. of 1524m. Also found in Sri Lanka, Burma, S. China and Taiwan.

Remarks : Commonest of microhylids and nocturnal in habit. During the day it may be found under stones and leaves. It feeds mainly on coleopteran insects and ants. It breeds during June or July and lays its eggs in flat transparent masses.

REFERENCES

- Inger, R. F. and Dutta, S. K. (1988). An overview of the Amphibian fauna of India. *J. Bombay nat. Hist. Soc.*, 83 : 135-146.
- Saksena, D. N., Sarkar, A. K. and Tiwari, K. K. 1988. Anuran fauna of Gwalior and Chambal Divisions of Madhya Pradesh, India. *J. Hydrobiol*, 4 (1) : 25-27.
- Sanyal, D. P., Chandra, P. K. and Roy, S. On a collection of amphibian from Bastar District, Madhya Pradesh. (in press).

REPTILIA**INTRODUCTION**

With the setting up of the Department of Environment, a number of ecosystem studies have been initiated in the various National Parks and Tiger Reserves of the country and environment impact statements are now being prepared in connection with the developmental projects. It is therefore, significant to record here the reptiles collected from Kanha Tiger Reserve by the field parties of the Zoological Survey of India. No information on the reptile fauna of Kanha area is available except by Agrawal (1976).

LIST OF REPTILES RECORDED FROM KANHA TIGER RESERVE

Class REPTILIA

Order SQUAMATA

Suborder SAURIA

Family GEKKONIDAE

1. *Hemidactylus brooki* Grey
2. *H. flaviviridis* Ruppell
3. *H. gracilis* Blanford
4. *Cyrtodactylus nebulosus* (Beddome)
5. *C. collegalensis* (Beddome)

Family AGAMIDAE

6. *Calotes versicolor* (Daudin)
7. *C. emma* Gray
8. *Sitana ponticeriana* Cuvier
9. *Psammophilus blanfordanus* (Stoliczka)

Family SCINCIDAE

10. *Mabuya macularia* (Blyth)
11. *M. carinata* (Schneider)
12. *Riopa albopunctata* Grey

Family VARANIDAE

13. *Varanus bengalensis* (Daudin)

Suborder SERPENTIES

Family TYPHLOPIDAE

- 14.
- Ramphotyphlops braminus*
- (Daudin)

Family BOIDAE

- 15.
- Python molurus*
- (Linnaeus)

Family COLUBRIDAE

16. *Lycodon aulicus* (Linnaeus)
 17. *Sibynophis sagittarius* Cantor
 18. *Ptyas mucosus* (Linnaeus)
 19. *Argyrogena fasciolatus* (Shaw)

Family ELAPIDAE

20. *Bungarus caeruleus* (Schneider)
 21. *Naja naja* (Linnaeus)

Family VIPERIDAE

- 22.
- Vipera russelli*
- (Shaw)

SYSTEMATIC ACCOUNT

Order SQUAMATA

Suborder SAURIA

Family GECKONIDAE

1. *Hemidactylus brooki* Gray

(Spotted Indian House Gecko)

1845. *Hemidactylus brooki* : Grey, *Cat. Liz. Brit. Mus.* : 153.1932. *Hemidactylus brooki* : Deraniyagala, *Ceylon J. Sci. B* : 16 : 300

Material examined : 2 ex.; Ghorila; 13.xi.1945; K.K. Tiwari coll. 2 ex.; Kanha N. Park; 10.vii.1964; O.B. Chotani coll. 1 ex.; Mukki; 8.ii.1954; K.K. Tiwari coll.; 1 ex.; Baihar; 28.ii.1954; K.K. Tiwari coll.; 1 ex.; Balaghat; 22.i.1964; K.K. Tiwari coll.

Measurements : Snout to vent 58 to 65 mm; tail 72 to 75 mm.

Diagnostic characters : Scales on the body granular with 14-19 rows of trihedral tubercles. Upper labials 8-11, Lower labials 7-10, Lamellae on the fourth toe 8-10. Femoral and pores vary from 15-27.

Distribution : Kanha National Park, Madhya Pradesh as stated above. The species is distributed throughout the Indian region.

Remarks : House Gecko is common in houses in India; also found away from human habitations.

Status : Common.

2. *Hemidactylus flaviviridis* Ruppell

(Yellow-Bellied House-Gecko)

1835. *Hemidactylus flaviviridis* Ruppell, *Neue Wirb. Fauna. Abyss* : 18. Pl.vi.fig. 2.

1923. *Hemidactylus flaviviridis* : Hora, *Rec. Ind. Mus.*, 25 : 372.

Material examined : 2 ex.; Balaghat; 13.iv.1954; coll. K.K. Tiwari.

Measurements : Snout to vent 136 to 139 mm; tail damaged.

Diagnostic characters : Tubercles on the body absent or negligible in number. Upper labials 11-14, Lower labials 9-12. Fourth toes with 12-15 lamellae. Male with 5 to 7 femoral pores on each side.

Distribution : Kanha National Park, as mentioned above. Also northern India to West Bengal and south to the vicinity of Bombay.

Remarks : This gecko is an edificial species, seldom seen far from human dwellings.

Status : Common.

3. *Hemidactylus gracillis* Blanford

1870. *Hemidactylus gracillis* Blanford, *J. Asiat. Soc. Beng.*, 39 : 362. Pl. 14. fig. 4-6.

1912. *Hemidactylus platyceps* : Annandale, *Rec. Ind. Mus.*, 7 : 56.

Material examined : 2 ex.; Kanha N. Park; 27-28.ii.1974; H. Khajuria coll. 1 ex. ; Kanha N. Park; 15.ii.1974; N.K. Sinha coll.

Measurements : Snout to vent 49 mm; tail 20 mm.

Diagnostic characters : Body slender; back with small scales and series of oval, keeled tubercles; upper labials 9, lower labials 7; lamellae on the fourth toe 9. Male with 6 preanal pores.

Distribution : Kanha National Park, as stated above. Also Maharashtra, Andhra Pradesh.

Remarks : Grey above with dark brown rectangular spots arranged in two longitudinal rows separated by a thin mid streak. Undersides whitish.

Status : Common.

4. *Cyrtodactylus nebulosus* (Beddome)

1870. *Cymnodactylus nobulosus* Beddome, *Madras Month. J. Med. Sc.*, 2 : 174.

1890. *Cymnodactylus nebulosus* : Boulenger, *Fauna Brit. Ind.*, : 64.

Material examined : 2 ex.; Mukki; 4.ii.1954; K.K. Tiwari coll.

Measurements : Snout to vent 25 mm to 32 mm; tail 25 mm.

Diagnostic characters : The species is characterised by strongly bent clawed toes, dorsoventrally compressed body, with a vertical pupil; head moderate; snout larger; 10 lower and

10 upper labials. Tail shorter than head and body, swollen at base.

Distribution : Kanha National Park, M.P. Also Golconde hill, Madras, Orissa.

Remarks : Small, stoutly built species, conspicuously and handsomely marked when alive.

Status : Common.

5. *Cyrtodactylus collegalensis* (Beddome)

(Collegal Rock- Gecko)

1870. *Cymnodactylus collegalensis* Beddome, *Madras, Month. J. Med. Sc.* 2 : 173.

1932. *Cymnodactylus nebulosus* : Deraniyagala, *Ceylon. J. Sci. B.*, 16 : 293. Pl. Lix.

Material examined : 1 ex.; Kanha National Park; 19.xi.1963; H. Khajuria coll.

Measurements : It could not be taken as the specimen is in damaged condition.

Diagnostic characters : A small and stoutly built Gecko. Head moderate and tail shorter than head and body. Almost complete absence of enlarged dorsla tubercles; mid-body scales in 40 rows.

Distribution : Kanha N. Park, Madhya Pradesh. Hills of southern India at low elevations.

Remarks : It is a forest form, generally found under bark of dead trees. It is a conspicuously and handsomely coloured gecko. Dorsal side is marked by large, oval black paired spots. Head spotted with brown colour.

Status : Common.

Family AGMIDAE

6. *Calotes versicolor* (Daudin)

(Indian Garden Lizard)

1802. *Agama versicolor* Daudin, *Hist. Nat. Rept.*, 3 : 395, Pl. xlv.

1931. *Calotes versicolor*: Deraniyagala, Ceylon *J. Sci. B.* 16 : 150.

Material examined : 3 ex.; Balaghat; 28.i.1963; B.S.Lamba coll. 1 ex.; Kanha N. Park; 1.iii.1965; A.K. Mukherjee coll.

Measurements : Snout to vent 72 mm to 87 mm; tail 175 mm to 250 mm.

Diagnostic characters : Head and eye large. Limbs well developed, with long slender digits ending in powerful claws. Body scales keeled, imbricate and arranged in 35 to 52 scales round the body, two separated spines above the tympanum.

Distribution : Kanha National Park as stated above. Distributed throughout India.

Remarks : The common garden lizard is essentially arboreal in its habits but also found in the open fields, hedges and gardens. The breeding season starts early in May and ends in September.

Status : Common.

7. *Calotes emma* Gray

1845. *Calotes emma* Gray, *Cat. Liz. Brit. Mus.*, : 244

1912. *Calotes emma* : Boulenger, *Fauna Malay Pen.*, p. 73.

Material examined : 1 ex.; Mandla; 27.i.1954; K.K.Tiwari coll.

Measurements : Snout to vent 115 mm; tail 290 mm.

Diagnostic characters : Forehead concave; upper head scales unequal, keeled; A postorbital spine ; 49 to 65 keeled scales round the body.

Distribution : Kanha N. Park, M.P. Elsewhere : India : Assam and Garo hills.

Remarks : It is first record from Mandla district of Madhya Pradesh. Inhabits open jungle and do not occur above 910 m altitude.

Status : Common.

8. *Sitana ponticeriana* Cuvier

(Fan thorated Lizard)

1844. *Sitana ponticeriana* Cuvier, *Guerin, Icon. Reg. Anim. Rept.*, Pl. 10, fig. 2.

1931. *Sitana ponticeriana* : Deraniyagala, *Ceylon. J. Sci. B.*, 16 : 141.

Material examined : 2 ex.; Balaghat; 2.iii.1964; N.V. Subba Rao coll.

Measurements : Snout to vent 70-75 mm; tail 100-150 mm.

Diagnostic characters : Resembles a small calotes superficially but this lizard has a longer tail and is without a dorsal crest. Body compressed, covered with regular keeled scales, limbs long, tympanum naked. No preanal or femoral pores.

Distribution : Kanha N. Park, Madhya Pradesh. Also Andhra Pradesh.; Gujrat, Maharashtra, Rajasthan, Uttar Pradesh, W. Bengal, and Tamil Nadu.

Remarks : This lizard prefers bushy places in the open country and dry areas. It is a fast runner It adopts a bipedal mode of locomotion. It folds and unfolds its gular pouch when excited. The male attracts the female by display of its (males)gular pouch which assumes brilliant coloration during courtship.

Status : Common.,

9. *Psammophilus blanfordanus* (Stoliczka)

(Peninsular Rock Agama)

1870. *Charasia dorsalis* Blanford, *J. Asiat Soc. Beng.* 39 : 368.

1912. *Charasia blanfordians* : Annandale, *Rec. In.d Mus.*, 7 : 46.

Material examined : 1 ex.; Mukki; 24.i.1966; K.K. Tiwari coll. 1 ex.; Kisli ; 3.i.1966; K. K. Tiwari col.; 1 ex.; Ghorela; 28.i.1963; B. .S. Lamba coll.

Measurements : Snout to vent 45 mm to 50 mm; tail 80-90 mm.

Diagnostic characters : Small size, dorsal scales slightly larger, keeled and imbricate, arranged in 80-100 rows round the mid body; flanked with a few scattered and a little larger series of scales.

Distribution : Kanha National Park, Madhya Pradesh. Also Bihar, Orissa, Eastern Ghats, south Kerala up to Trivandrum.

Remarks : The species is found on rocks and is a very active creature. It feeds on insects and the male assumes a brilliant breeding coloration, generally during April-May when its head and shoulder turn scarlet red.

Status : Common.

Family SCINCIDAE

10. *Mabuya macularia* (Blyth)

(Bronze grass skink)

1853. *Euprepes macularia* Blyth, *J. Asiat. Soc. Beng.*, 22 : 652.

1931. *Euprepes macularius* : Deraniyagala, *Ceylon J. Sci. B.* 16 : 165.

Material examined : 1 ex.; Kanha Mandla dist. 14.i.1991; R. K. Ghose coll. 2 ex. ; Mukki Balaghat dist.; 23.i.1991; R.K. Ghose coll.

Measurements : Snout to vent 30 to 36 mm; tail 37 mm to 62 mm.

Diagnostic characters : From 28-30 scales round the body, the dorsals and laterals with 5 or 7 strong keels. Digits moderately long, 12-17 lamellae under the fourth toe.

Distribution : Kanha National Park Madhya Pradesh. Also : Orissa, Bihar, Bengal , Assam and south India.

Remarks : Dark bronze above, with or without small black longitudinally arranged spots; It is oviparous, lays 3 or 4 eggs.

Status : Common.

11. *Mabuya carinata* (Schneider)

(Common Skink)

1801. *Scincus carinatus* Schneider, *Hist. Amphib.* 2 : 183.

1931. *Mabuya carinatus* Beraniyagala, *Ceylon J. Sci. B.*, 16 : 167.

Material examined : 1 ex.; Kanha N. Park; 21.ii.1963; H. Khajuria coll. 1 ex.; Kanha East Range; 14.i.1991; R.K. Ghose coll.

Measurements : Snout to vent 52 to 55 mm; tail 70 to 90 mm.

Diagnostic characters : Dorsal and lateral scales subequal, with 3 to 5 distinct keels; 30-34 scales round the mid-body. Digits moderately long, with smooth or obtusely keeled lamellae, 14-18 under fourth toe.

Distribution : Kanha National Park as stated above. This species is distributed throughout India except in the north-west. Sharma (1982) recorded it from Gujarat.

Remarks : Dorsum olive or bronzy, sides darker. Body characterised by two prominent dorso-lateral stripes. Undersides white or yellow. The male exhibits a brilliant scarlet coloration on the flanks during breeding season.

Status : Common.

12. *Riopa albopunctata* Gray

(Snake Skink)

1846. *Riopa albopunctata* Gray, *Ann. Mag. Nat. Hst.*, **18** : 430.

1927. *Lygosoma albopunctata* Hora: *Rec. Ind. Mus.*, **29** : 5.

Material examined : 1 ex.; Mukki Balaghat dist.; 30.i.1991; R.K. Ghose coll.

Measurements : Snout to vent 50 mm; tail broken.

Diagnostic characters : Lower eyelid scaly; nostril in nasal; supranasals present; ear opening distinct, tympanum sunk. Limbs short or vestigial. 28 smooth scales round the body. 14 lamellae beneath the 4th toe. Tail thicker at the base.

Distribution : Kanha N. Park, Madhya Pradesh. Also in : W. Bengal, Bihar, Orissa, Assam and Uttar Pradesh.

Remarks : Brown or reddish-brown above, dark spots forming longitudinal series; sides of neck and anterior part of the body dark brown, white below.

Status : Common.

Family VARANIDAE

13. *Varanus bengalensis* (Daudin)

(Indian Monitor)

1802. *Tupinambis bengalensis* Daudin, *Hist. Nat. Rept.* **3** : 67.

1932. *Varanun bengalensis* : Smith, *ibid.*, **35** : 615.

Material : Not examined.

Diagnostic characters : Monitors are large sized lizards; head long and narrow, with snout pointed; neck long and mobile; tail laterally compressed; mid-body scale rows 132-176; no femoral pores. Digits elongate.

Distribution : Distributed throughout India.

Remarks : Found both in the remote forests as well as on the outskirts of the village. Young and adult differ in coloration. Young dark olive above with numerous light spots. Adult brownish or olive above, with blackish dots on the back; lower parts yellowish, mottled with black. Though no specimen was collected from Kanha National Park but it is evident from the literature that the species is recorded from Madhya Pradesh. So it is likely to occur in Kanha National Park.

Status : Placed under Schedule II of the Indian Wildlife (Protection) Act, 1972.

Suborder SERPENTES

Family TYPHLOPIDAE

14. *Ramphotyphlops braminus* (Daudin)

(Common blind Snake)

1803. *Eryx braminus* Daudin, *Hist. nat. Rept.*, 7 : 279.

1937. *Typhlops braminus* : Fraser, *J. Bombay nat. hist. Soc.*, 39 : 464.

Material examined : 2 ex.; Balaghat; 13.ii.1959; K.K. Tiwari coll. 1 ex; Mandla; 27.i.1954; K.K. Tiwari coll.

Measurements : Total length 130 to 150 mm.

Diagnostic characters : Small wormlike, snout rounded strongly projecting; nostrils lateral, 20 scales round the body; tail ending in a fine point.

Distribution : The species is distributed throughout India.

Remarks : Common worm-like snake; live underground. Black or redish brown above, lighter below. When handled it exudes an unpleasant swelling musk.

Status : Common. Members of the family Typhlopidae are included in Schedule IV of the Indian Wildlife (Protection) Act, 1972.

Family BOIDAE *

15. *Python molurus* (Linnaeus)

(Indian Python)

1758. *Coluber molurus* Linnaeus, *Syst. Nat.* 10th ed., : 225.

1937. *Python molourus* : Fraser, *J. Bombay nat. Hist. Soc.* 39 : 465.

Material examined : 1 ex.; Kanha National Park; 21.iv.1963; Zoological Survey of India tour party coll.

Diagnostic characters : Large, thick bodied, smooth scales, rostral and first two supra labials pitted; ventral 245-270; caudal 58-73 scales, 60-75 rows in mid-body; anal entire; tail short.

Remarks : Light yellowish to cream in colour, with a dorsal series of large elongate, more or less subquadrangular dark grey spots; a lance shaped mark on the top of the head.

Distribution : Kanha National Park as mentioned above. Also in: Peninsular India up to Sind (Pakistan) in the west and West Bengal in the east.

Status : Placed under Schedule I of the Indian Wildlife (Protection) Act, 1972.

Family COLUBRIDAE *

16. *Lycodon aulicus* (Linnaeus)

(Common Wolf Snake)

1754. *Coluber aulicus* Linnaeus, *Mus. Adolph. Frider* 1 : 29, pl. 12, fig. 2.

1937. *Lycodon aulicus* : Fraser, *Ibid.* 39 : 257.

Material examined : 1 ex.; Balaghat; 24.xi.1968; B.S. Lamba coll.

Measurements : Snout to vent 100 mm, tail 80 mm.

Diagnostic characters : Small slender, with bright cross bands; 9 supra labials; posterior nasals not smaller than the anterior; body scales in 17 rows, smooth; anals 2, one preocular.

Distribution : Kanha National Park as stated above. Common throughout India.

Remarks : Very common and widely distributed of all the Wolf Snakes. It is also found near human habitation. They feed on small lizards specially geckos; nocturnal.

Status : Common.

17. *Sibynophis sagittarius* (Cantor)

(Cantor's black headed Snake)

1839. *Calamaria sagittaria* Cantor, *Proc. zool. Soc.*, London : 49.

1907. *Polydontophis sagittarius* : Wall, *J. Bombay nat. Hist. Soc.*, 7 : 823.

Material examined : 1 ex.; Kanha Mandla dist.; 99 19.9.1991; R.K. Ghose coll.

Measurements : Snout to vent 200 mm, tail 52 mm.

Diagnostic characters : One anterior temporal, 7 supralabials, parietal touches both post oculars.

Distribution : Kanha National Park as stated above. Also in North eastern India. W. Bengal, Bihar, Nicobar Islands.

Remarks : Light brown in colour, with a vertebral series of black dots; head black with a large elongate oval patch of yellow on each side at the back of the head. Lower parts light yellow with a black dot on the outer edge of each ventral shield.

Status : Common.

* Members of the family Boidae, except *Python molurus*, are included in Schedule IV of the Indian Wildlife (Protection) Act, 1972.

18. *Ptyas mucosus* (Linnaeus)

(Common Rat Snake)

1758. *Coluber mucosus* : Linnaeus, *Mus. Ad. Frid.*, 1 : 37, pl. 23.1939. *Ptyas mucous* Shaw, *J. Darjeeling nat. Hist. Soc.*, 16 : 68.*Material examined* : 1 ex.; Motinala Mandla dist.; 3.ii.1991; R.K. Ghose coll.*Measurements* : Snout to vent 1670 mm, tail 475 mm.*Diagnostic characters* : Large, streamlined, shiny scales, dorsal rows keeled; thin neck and large eyes; scales in 17 rows at mid-body. Ventral 200, Anal 2, Caudal 125.*Distribution* : Kanha N. Park as stated above. Throughout India including the Andaman & Nicobar Islands.*Remarks* : Greyish in colour, with irregular marked black cross-bars on the posterior half of the body. Yellowish white below. Rat snakes also feed on frogs, lizards, small birds and rats.*Status* : Not very common. The species is included in Schedule II of the Indian Wildlife (Protection) Act, 1972.19. *Argyrogena fasciolatus* (Shaw)

(Banded Racer)

1802. *Coluber fasciolatus* Shaw, *Gen. zoo.* 3 : 528.1937. *Zamenis fasciolatus* : Fraser, *J. Bombay nat. Hist. Soc.*, 39 : 476.*Material examined* : 3 ex.; Kanha N. Park; 27.i.1974. 1 ex; Kanha N. Park; 1.iii.1974; Purchased.*Measurements* : Snout to vent 410 mm, tail 170 mm.*Diagnostic characters* : Small to medium sized; smooth scales; young brightly banded, adult ununiform, without pattern. 8 supralabials, 21 scale rows on the mid body.*Distribution* : Kanha N. Park as mentioned above. Also in West Bengal, Bihar, Uttar Pradesh, Maharashtra, Karnataka and Anamalai hills of south India.*Remarks* : Light Brown above, with narrow white cross bars on the anterior half of the body. Posterior part, with cross bars or spots gradually disappearing towards tail. The species is energetic and swift in action during daytime.*Status* : Common.

* Members of the family Colubridae, except *Ptyas mucosus*, are included in Schedule IV of the Indian Wildlife (Protection) Act, 1972.

Family ELAPIDAE *

20. *Bungarus caeruleus* (Shneider)

(Common Indian Krait)

1801. *Pseudobos caerulea* Schneider, *Hist. Amphib.*, 2 : 284.1937. *Bungarus caeruleus* : Fraser, *Ibid.*, 39 : 486.*Material examined* : 1 ex.; Kanha N.Park; 16.iv.1964; O.B. Chhotani coll*Measurements* : Snout to vent 820 mm, tail 130 mm.*Diagnostic characters* : Medium sized; head not distinct from neck; head shields normal, no loreal; eyes small with round pupil; smooth glossy scales.*Distribution* : Kanha N. Park as stated above. Also in : Maharashtra, Gujrat, Rajasthan, Jammu & Kashmir, Bihar, Orissa, West Bengal & Andaman Islands.*Remarks* : Common and very abundant in some areas. They live and thrive near human settlements and remain undisturbed because of their secretive nocturnal habit.*Status* : Common.21. *Naja naja* (Linnaeus)

(Indian Cobra)

1758. *Colubr. naja* Linnaeus, *Syst. Nat.* 10th ed. : 221.1937. *Naja naja* Smith., *J. Nat. Hist. Soc. Siam*, 11 : 62.*Material* : Not examined*Diagnostic characters* : Medium to large sized; smooth, shiny scales; wide head and neck; wide black band on underside of neck; distinctive hood marking present.*Distribution* : India : West Bengal, Bihar, Uttar Pradesh, Orissa and Peninsular India.*Remarks* : Cobras are very common in rice growing areas, which have plenty of rats for food and holes to live in. They are usually not aggressive and often timid but occasionally fierce and aggressive when disturbed. When alarmed, it adopts the well known pose with erect forebody and spread hood. Mating has been seen in January and the majority of eggs laid in April/May. Though no specimen was collected from Kanha National Park but the species is recorded from Madhya Pradesh. So, it is likely to occur in Kanha National Park.*Status* : Not very common. The species is included in Schedule II of the Indian Wildlife (Protection) Act, 1972.

* Members of the family Elapidae, except *Naja naja*, are included in Appendix IV of the Indian Wildlife (Protection) Act, 1972.

Family VIPERIDAE *

22. *Vipera russeli* (Shaw)

(Russell's Viper)

1797. *Coluber russelli* Shaw, *Nat. Mus.*, 8 : 291.1937. *Vipera russelli* : Fraser, *Ibid.*, 39 : 492, pl. 8.*Material* : Not examined.*Diagnostic characters* : Medium to large size; strongly keeled scales; large triangular head.*Distribution* : Occurs throughout India.

Remarks : The body colour is usually brown or yellowish and the pattern is composed of dark round spots, with white and black. It is slow in movement and feeds mostly on small mammals specially rats but birds, lizards and frogs are also taken. Nocturnal. The species is recorded from Madhya Pradesh; it is likely to occur in Kanha National Park.

Status : Not very common. The species is included in Schedule II of the Indian Wildlife (Protection) Act, 1972.

SUMMARY

This paper deals with the reptile fauna of Kanha Tiger Reserve, It is based on several collections made by parties of the Zoological Survey of India. This collection contains 22 species belonging 17 genera and 8 families. A list of reptiles known to occur from Kanha National Park is given.

ACKNOWLEDGEMENT

Authors are thankful to Director, Zoological Survey of India for the facilities provided to work out the collections and for guiding us in various ways.

REFERENCES

- Agarwal, H.P. 1976. Fauna of Kanha National Park—Reptile. *News letter zool.Surv. Ind.*, 2 : 247-249.
- Sharma, R.C. 1982. Taxonomic and ecological studies on the reptiles of Gujarat. *Rec. zool. Surv. India.*, 80 : 85-106.
- Sanyal D.P. & Dasgupta, Gouri. 1990. On a collection of Reptiles from Baster Dist., M.P. Central India. *Hamadryad*, 15 (1) : 18-20.
- Smith, M.A. 1935. *The fauna of British India including Ceylon & Burma*. Reptila and Amphibia, Vol. 2, Sauria. Taylor and Francis, London.
- Smith, M.A. 1943. *The fauna of British India including Ceylon & Burma*. Reptilia and Amphibia, Vol. 3. Serpentes. Taylor & Francis, London.

* Members of the family Viperidae, except *Vipera russeli*, are included in Schedule IV of the Indian Wildlife (Protection) Act, 1972.

AVES

INTRODUCTION

Although some earlier publications are available on the avifauna of central India (Osmaston 1927, Ali 1939, Hewetson 1939, Wright 1942, D'Abrew 1935 etc.), information in the birds of Kanha Tiger Reserve has been generally neglected for a longtime. Afterwards Hewetson (1955), Anderson (1979) and Ranjitsinh (1983) recorded some bird species from Kanha, and Panwar (n.d.) gave the first list of birds known from this Reserve. Guntert and Homberger (1973) added further to this list. However, an elaborated list of 226 species of birds of Kanha Tiger Reserve was provided by P. N. Newton, S. Breeden and G. J. Norman (1986).

The present communication contains a list of 231 species and subspecies of birds spread in 144 genera and 52 families, mainly based on the works of P. N. Newton, S. Breeden and G. J. Norman (op. cit.). The material present in the Zoological Survey of India collection, obtained through different surveys from time to time and the list of birds prepared during the Tiger Reserve Survey in 1991 have also been incorporated alongwith a number of new localities recorded for 56 species. Moreover, five species of birds, namely, *Pericrocotus ethologus flavillaceus* Bangs and Phillips, *Phylloscopus griseolus* Blyth, *Phylloscopus magnirostris* Blyth, *Cephalopyrus flammiceps* (Burton) and *Emberiza bruniceps* Brandt, have been reported for the first time from the Kanha Tiger Reserve.

Systematics have been treated after Ripley (1982) and Ali and Ripley (1968-74) and for detailed description Baker (1922-1932) were consulted. For identification of birds in the field Ripley and Ali (1983) have been followed.

Figures given in square bracket [] indicate Schedules of the Indian Wildlife (Protection) Act, 1972 to which the species is included.

I am grateful to the Director, Zoological Survey of India for facilities provided. My thanks are also due to Dr. R. K. Ghose, Scientist 'SD' (Retd.) for encouragement and guidance throughout the preparation of the list, also to Shri S. S. Saha who has helped in various ways.

SYSTEMATIC ACCOUNT

Family PODICIPEDIDAE

Podiceps ruficollis (Pallas)

Little Grebe [IV]

Normally found in open waters and tanks between November and July. Seen at Kanha anicut, Sondha Tank, Sonph tank and Shrawantal.

Family PHALACROCORACIDAE

Phalacrocorax carbo (Linnaeus)

Cormorant [IV]

Found in open waters and tanks. The species was seen on Kanha anicut by P. N. Newton in the month of February.

Phalacrocorax fuscicollis Stephens

Indian shag [IV]

Found in open water and tanks. The species was observed at Sondha tank by S. Breeden in the month of April.

Phalacrocorax niger (Viellot)

Little cormorant [IV]

Noticed at Desi nullah by Guntert and Homberger in the month of September.

Family ARDEIDAE

Ardea cinerea Linnaeus

Grey heron [IV]

Found in open water or tank. Observed at Shrawantal, Menhar bund and Sondha tank by S. Breeden in the months of April and June.

Ardea purpurea Linnaeus

Purple heron [IV]

Found in stream, nullah, open water or tank. Seen at Shrawantal and at Kanha anicut between February and June.

Ardeola grayii (Sykes)

Pond heron [IV]

Normally found throughout the year near tanks, pools, ponds or streams. The species was seen at Kerighat and Deotal. Zoological Survey of India has recorded the species from Mukki.

Bubulcus ibis (Linnaeus)

Cattle egret [IV]

Commonly seen in the valley meadows encircled by Sal forest between November and June. Frequently seen in Shrawantal, Kanha anicut and on the bank of Banjar river at Mukki. Breeding plumage appears around May. Earlier recorded by Guntert & Homberger (1973) and Panwar (n.d.)

Egretta intermedia (Wagler)

Smaller egret [IV]

General habitat is nullah, stream, open water or tank. The species was observed at Kanha

anicut, Sharawantal, Menhar bund. S. Breeden saw a bird in breeding plumage in June 1982.

Egretta garzetta (Linnaeus)

Little egret [IV]

Usual habitat is nullah, stream, open water or tank. The species was noticed at Kanha anicut, Menhar bund Sondh tank by P. N. Newton and S. Breeden in January, April and May. Earlier it was recorded by Panwar (n. d.).

Family CICONIIDAE

Ciconia episcopus (Boddaert)

Whitenecked stork [IV]

Common habitats are nullah, stream, open water, tanks and even valley meadow. Mostly seen between December and June. Seen at Kanha anicut, Menhar bund, Shrawantal and stream at central Kanha meadow.

Ciconia nigra (Linnaeus)

Black stork [IV]

A rare species in the Deccan (Ali & Ripley 1968-74). Normally seen in open water or tank. S. Breeden has noticed the bird at Kanha anicut and Kanha meadow in winter of 1982 and 1983.

Leptoptilos javanicus (Horsfield)

Lesser adjutant [IV]

The bird is found in open water, tank, stream, nullah and valley meadow between March and June. The species has been observed at Kanha anicut, Menhar bund, Shrawantal, Sondh tank and Sulkum nullah. Earlier record of the species are by Hewetson (1955), Gunter and Homberger (1973) and Panwar (n. d.).

Family THRESKIORNITHIDAE

Threskornis aethiopica (Latham)

White ibis [IV]

S. Breeden has observed five individuals flying over Kanha meadow in July 1983.

Pseudibis papillosa (Temminck)

Black ibis [IV]

A resident bird found through out the year foraging Kanha anicut, nullahs and meadows. Roost in Sal (*Shorea robusta*) at Kanha Forest Village. Earlier record is by Panwar (n. d.).

Family ANATIDAE

Dendrocygna javanica (Horsfield)

Lesser Whistling teal [IV]

Seen between November and July at Shrawantal, Sondh tank and Kanha anicut in large number. Earlier record of the Lesser Whistling teal at Kanha are by Guntert and Homberger (1973) and Panwar (n. d.).

Anas acuta (Linnaeus)

Pintail [IV]

A considerable number of Pintails are observed at Sondh tank. Shrawantal, Kanha anicut, etc. places between November and March.

Anas crecca Linnaeus

Common teal [IV]

A considerable number of these birds are observed at Mundri dadar bund, Menhar bund, Sondh tank, Shrawantal and Sonph tank between November and March. Earlier it was recorded by Guntert and Homberger (1973).

Anas poecilorhyncha J. R. Forster

Spotbill duck [IV]

Anderson (1979) recorded the species at Shrawantal.

Anas penelope Linnaeus

Wigeon [IV]

Observed at Sondh tank by R. Wolton and P. N. Newton in November 1981.

Anas querquedula Linnaeus

Garganey [IV]

Recorded by S. Bleeden at Sondh tank in January 1983.

Anas clypeata Linnaeus

Shoveller

Recorded by S. Bleeden at Shrawantal in November 1982.

Nettapus coromandelianus (Gmelin)

Cotton teal [IV]

Normally observed at Kanha anicut, Shrawantal and Sondha tank between February and July in small numbers.

Family ACCIPITRIDAE

Elanus caeruleus (Desfontaines)

Blackwinged kite [IV]

The bird is seen in valley meadow, dadars and mixed forest. Recorded at Kanha, Rondha, Sonph, Bahmnidadar, Silpura, Shrawanchitta cliffs, Muchadonga, Breeding has been observed at Kanha meadow in February 1981 and October 1983.

Pernis ptilorhyncus (Temminck)

Honey buzzard [IV]

A resident bird and seen throughout the year in the Sal forests.

Milvus migrans (Boddaert)

Black kite [IV]

Once seen over Kanha meadow by S. Breeden, but commonly seen in the buffer zone around Morcha village.

Accipiter badius (Gmelin)

Shikra [IV]

Frequently seen in Kanha meadows between October and July and preys mainly on myna, spotted dove, black drongo, etc.

Butastur teesa (Franklin)

White-eyed buzzard-eagle [IV]

Normally seen in meadow, Sal forest and mixed type of forest between October and July. Recorded from Kanha, Bamnidadar, Sonph, Silpura.

Spizaetus cirrhatus (Gmelin)

Crested hawk-eagle [IV]

Normally seen in meadow, Sal forest and mixed forest almost throughout the year. P. N. Newton observed one crested hawk-eagle to feed on hare at Rondha in January 1980.

Sarcogyps calus (Scopoli)

King Vulture [IV]

Seen in the meadow and Sal forest at Kanha and Kisli between February and August.

Gyps indicus (Scopoli)

Indian longbilled Vulture [IV]

It is a rare species in the area and once it was recorded by P. N. Newton to fly over Kanha meadow.

Gyps bengalensis (Gmelin)

Whitebacked Vulture [IV]

A resident bird found throughout the year in the meadow and Sal forest at Kanha and Sonph, scavenging tiger and dhole kills.

Neophron percnopterus (Linnaeus)

Scavenger Vulture [IV]

Common in the buffer zone of the Tiger Reserve. Also rarely seen flying over on the meadow and Sal forest around Kanha.

Circus macrourus (S. G. Gmelin)

Pale harrier [IV]

Pale harriers were observed by S. Bleeden during December to January at Bahmidadar and Kanha Meadow. Two males were also noticed at Sondha in January 1982.

Circus melanoleucos (Pennant)

Pied harrier [IV]

The species is seen at Bahmnidadar and Kanha meadow during December to April.

Circus aeruginous (Linnaeus)

Mash harrier [IV]

The species has been seen at Bahmnidadar, Sonph and Kanha meadows between February to March; also in June and November.

Spilornis cheela (Latham)

Crested serpent eagle [IV]

A resident bird and is found throughout the year. S. Bleeden has noticed this bird to eat varieties of snakes and also to chase peacock.

Family FLACONIDAE

Falco biarmicus (Temminck)

Lanner falcon [I]

The bird is seen around Kanha meadow and Sonph meadow between January and may.

Falco peregrinus (Tunstall)

Peregrine falcon [I]

Recorded by Guntert and Homberger (1973) at Deotal in Mixed forest in September 1972.

Falco tinnunculus Linnaeus

Kestrel [IV]

Commonly observed in Kanha meadow from November to March. Z. S. I. has recorded the species on ridge road between Bahmnidadar and Bhaisan Ghat.

Family PHASIANIDAE

Francolinus francolinus (Linnaeus)

Black partridge [IV]

Recorded by Panwar (n. d.).

Francolinus pictus (Jardine & Selby)

Painted partridge [IV]

Common on Kanha meadow, Sonph, Silpura between April and August. Earlier recorded by Panwar (n.d.) and Guntert and Homberger (1973).

Francolinus pondicerianus (Gmelin)

Grey partridge [IV]

Common on Sonph meadow, Beniphat and Morcha. Z. S. I. party has also observed it at Mukki.

Coturnix coturnix (Linnaeus)

Common quail [IV]

This quail is seen at Kanha and Mukki from December to June.

Coturnix coromandelica (Gmelin)

Rain quail [IV]

The quail is normally seen on Kanha meadow after the rains.

Peridicula asiatica (Latham)

Jungle bush quail [IV]

Common at Bahmnidadar, Bijadadar and Kanha meadow from January to June.

Galloperdix spadicea (Gmelin)

Red spurfowl [IV]

Common in bamboo thickets at Silpura, Bahmnidadar, Kodaidadar and Kisli.

Gallus gallus (Linnaeus)

Red junglefowl [IV]

Common in the forests throughout the Tiger Reserve area.

Pava cristatus (Linnaeus)

Peafowl [IV]

A resident bird found throughout the year in the meadows of the Reserve.

Family GRUIDAE

Grus antigone (Linnaeus)

Sarus crane [IV]

A pair was noticed at Khapa in the buffer zone. Also reported from Julluk. Not noticed inside the core area.

Family RALLIDAE

Rallus striatus (Linnaeus)

Bluebreasted banded rail [IV]

This bird has been noticed at Desi nullah, Menhar bund and in a pool on Kanha meadow in June and July.

***Porzana pusilla* (Pallas)**

Baillon's crane [IV]

One specimen was noticed in Swamp at the edge of Kanha anicut.

***Amaurornis akool* (Sykes)**

Brown crane [IV]

Seen at Churi nullah, Desi nullah and Kanha meadow in May, June and January respectively.

***Amaurornis phoenicurus* (Pennant)**

Whitebreasted waterhen [IV]

Recorded at Kanha anicut and Parsatola tank. Guntert and Homberger (1973) also recorded the species at Deotal.

***Gallinula chloropus* (Linnaeus)**

Moorhen [IV]

Recorded at Kanha anicut in February, March and May. Z. S. I. party has noticed it in the same area in January 1991.

Family OTIDIDAE

***Sypheotides indica* (J. F. Miller)**

Lesser florican [IV]

Recorded by Ranjitsinh (1983) in Kanha in June 1969 and May 1971.

Family JACANIDAE

***Hydrophasianus chirurgus* (Scopoli)**

Pheasant-tailed jacana [IV]

Recorded by S. Bleeden on Sondh tank in January 1983.

***Metopodius indicus* (Latham)**

Bronzewinged Jacana [IV]

This bird is commonly noticed at Shrawanttal, Sondh tank and Kanha anicut from January to June. Z. S. I. party has obtained it from Kaliagaon. A resident bird found in jheels and ponds with floating vegetation.

Family ROSTRATULIDAE

***Rostratula benghalensis* (Linnaeus)**

Painted snipe [IV]

Painted snipes are noticed at Menhar bund and Rondha tank from March to June.

Family RECURVIROSTRIDAE

***Himantopus himantopus* (Linnaeus)**

Blackwinged stilt [IV]

This bird is noticed in a tank at Morcha village out side the Tiger Reserve.

Family BURHINIDAE

Burhinus oediconemus (Linnaeus)

Stone curlew [IV]

Commonly seen in mixed forests and meadows around Kanha, Kodaidadar, Bahmnidadar, Brohoindura from February to July.

Family CHARADRIIDAE

Venellus indicus (Boddaert)

Redwattled lapwing [IV]

Seen in meadows around nullahs, open waters and tanks at Kanha, Kisli, Sonph, Sondha, Kodaidadar, Deotal from October to July. Z. S. I. party has recorded it at Supkhar and Sundhar.

Venellus malabaricus (Boddaert)

Yellow-wattled lapwing [IV]

This bird was observed at Kanha, Kisli and Rondha meadows. Z. S. I. party has recorded the bird at Ghorela and Muki.

Tringa erythropus (Pallas)

Spotted redshank [IV]

This bird was recorded by S. Bleeden at Morcha Village in November 1982. Not observed within the Tiger Reserve.

Tringa nebularia (Gunnerus)

Green shank [IV]

P. N. Newton has recorded this bird at Churi and Desi Nullah in December and March.

Tringa ochropus Linnaeus

Green sandpiper [IV]

Seen in open water and nullahs around Sulkum, Desi Nullah, Mundri dadar, Shrawantal and Kisli. Z. S. I. party has recorded it at Sondhar and Boria vilage.

Tringa glareola (Linnaeus)

Wood sandpiper [IV]

Seen in tanks and nullahs or streams at Sulkum, Desi Nullah, Souph, Sondha, Deotal from January to April.

Tringa gallinago (Linnaeus)

Fantail snipe [IV]

Seen in valley meadows and tank or swampy ground at Kanha, Rondha and Sonph.

Family COLUMBIDAE

Treron phoenicoptera chlorigaster (Blyth)

Green pigeon [IV]

Flocks of 50 – 100 Green pigeons were noticed on Kanha and Kisli meadows during rainy season and winter, feeding at saltlicks and Ficus trees. Z. S. I. party has recorded flocks at Ghorela, Bisanpura and Mukki.

***Columba livia intermedia* Strickland**

Blue rock pigeon [IV]

This bird may be observed in meadows and Sal forests of Kanha, Kisli, Sonph and Mukki almost throughout the year. Z. S. I. party has also recorded it from Supkhar.

***Streptopelia orientalis agricola* (Tickell)**

Rufous turtle dove [IV]

It is commonly found feeding at saltlicks of Kanha, Kisli, Sonph and Kodaidadar almost throughout the year. Z. S. I. has recorded this dove from Supkhar, Mukki, Ghorela and Bhaisanghat also.

***Streptopelia decaocto* Frivaldszky**

Indian ring dove [IV]

Indian ring dove has been noticed in meadows and Sal forests at Sonph, Kisli and Kodaidadar almost throughout the year. Z. S. I. party has recorded it from Supkhar and Bhaisanghat also.

***Streptopelia tranquebarica* (Hermann)**

Red turtle dove [IV]

It is generally observed in the meadows and Sal forests of Kanha, Kisli, Sonph and Deotal almost throughout the year.

***Streptopelia chinensis suratensis* (Gmelin)**

Spotted dove [IV]

Spotted dove is noticed at Kanha, Kisli, Sonph, Kodaidadar and Deotal throughout the year. Z. S. I. party has recorded it also from Ghorela, Supkhar, Mukki and Bhaisanghat.

***Chalcophaps indica* (Linnaeus)**

Emerald dove [IV]

Emerald doves were noted in Kanha, Kisli, Sondha and Parsatola in May, June and July.

Family PSITTACIDAE

***Psittacula eupatria nepalensis* (Hodgson)**

Large Indian parakeet [IV]

Seen in many places of the Reserve throughout the year. Z. S. I. party has recorded the bird from Ghorela.

***Psittacula krameri borealis* (Neumann)**

Roseringed parakeet [IV]

Seen throughout the year at Sulkum valley, Kanha and Kisli area and Kodaidadar. Z. S. I. party has recorded it from Mukki, Supkhar and Bisanpura. Less common in hills.

***Psittacula cynocephala bengalensis* (Forster)**

Blossomheaded parakeet [IV]

This parakeet is mainly a winter visitor in the Reserve seen at Kanha and Soph meadows and Kodaidadar. Z. S. I. party has recorded it from Ghorela. Feeds generally on *Ficus* fruits.

FAMILY CUCULIDAE

***Clamator jacobinus* (Boddaert)**

Peid crested cuckoo [IV]

The bird was observed only in June 1981 and 1982 during pre-monsoon showers, catching grasshoppers and termites on Kanha meadow. Probably a passage migrant enroute to breeding grounds (Ali and Ripley, 1968 – 74)e

***Cuculus varius* Vahl**

Common hawk-cuckoo [IV]

Generally seen in meadows, Sal forests and dadars between December and June. Common in Sulkum valley and surrounding hills. Z. S. I. party has recorded it from Mukki also.

***Cuculus micropterus* Gould**

Indian cuckoo [IV]

Generally seen in Sulkum valley and surrounding hills between February and July.

***Cuculus canorus* Linnaeu**

Cuckoo [IV]

Noticed calling in Sulkum valley and surrounding hills during April to June.

***Cacomantis sonnerattii* (Latham)**

Indian banded bay cuckoo [IV]

The bird was noticed at Churinallah and Kanha meadow only.

***Taccocua leschenaulti* (Lesson)**

Sirker cuckoo [IV]

Generally seen by the side of Kanha-Sonph road and also at Silpura, Chuchi mutta and Kisli from October to May.

***Eudynamys scolopacea* (Linnaeus)**

Koel [IV]

Seen at Kanha and Kisli during October to June. Feeds mainly on *Ficus* fruits.

***Centropus sinesnis parroti* Stresemann**

Coucal [IV]

Observed throughout the year in bamboo forest of Sulkum valley, Kanha and in upper reaches of Churi nullah.

Family STRIGIDAE

Tyto alba (Scopoli)

Barn owl [IV]

Barn owl has been noticed at Shrawantal and Desi nullah.

Otus bakkamoena marathae Ticehrst

Collared scops owl [IV]

Recorded in February and March in Sal forest around Kanha meadow. Z. S. I. party has also recorded it from Mukki.

Bubo bubo (Linnaeus)

Eagle-owl [IV]

Recorded from the Reserve by Panwar (n.d.).

Bubo zeylonensis (Gmelin)

Brown fish owl [IV]

Recorded in Sal forests from October to May around Kanha, Kisli and Mhadeo gogra.

Glacidium radiatum (Tickell)

Jungle owlet [IV]

Commonly seen at Kanha, Kisli, Sonph, Kodaidadar and Morcha from October to May. Z. S. I. party has recorded the bird from Mukki, Ghorela, Sondhar, Supkhar and Bhaisanghat.

Ninox scutulata (Raffles)

Brown hawk-owl [IV]

Seen at nest in shallow hollow of Sal tree at Churi nullah.

Asio flammeus (Pontoppidan)

Shorteared owl [IV]

This bird was noticed at Bahminidadar in the month of March only.

Family CAPRIMULGIDAE

Caprimulgus indicus (Latham)

Jungle nightjar [IV]

Noticed at Kanha meadow, Bahmnidadar, Kodaidadar and Deotal from February to April.

Caprimulgus affinis (Horsfield)

Franklin's nightjar [IV]

Seen in meadows and Sal forests from January to May at Kanha.

Family APODIDAE

Chaetura sylvatica (Tickell)

Whiterumped spinetail [IV]

Whiterumped spinetail has been observed at Kisli, Kanha and Sonph meadows between November and March.

Apus affinis (J. E. Gray)

House swift [IV]

House swifts have been noticed by Z. S. I. party at Supkhar, Mukki and Kanha in January and February 1991. G. N. Norman has also found it flying over Kanha anicut in February 1982.

Hemiprocne longipennis (Rafinesque)

Crested swift [IV]

Commonly seen between December and June on meadows and Sal forests. Breeds probably in February.

Family ALCEDINIDAE

Alcedo atthis (Linnaeus)

Common kingfisher [IV]

Common on nullahs and tanks of the Reserve almost throughout the year.

Ceryle rudis (Linnaeus)

Lesser pied kingfisher [IV]

A single bird was observed by P. N. Newton at Kanha anicut in February 1981.

Halcyon smyrnensis fusca (Boddaert)

Whitebreasted kingfisher [IV]

Common during January to October in all types of habitats within the Reserve. Z. S. I. party has recorded this kingfisher from Bhaishanghat, Chhatar village and Baihar.

Halcyon pileata (Boddaert)

Blackcapped kingfisher [IV]

A rarely recorded bird in central India. However, one specimen was seen at Desi nullah of the Reserve in February 1982.

Family MEROPIDAE

Merops philippinus Linnaeus

Bluetailed bee-eater [IV]

Recorded by Guntert and Homberger (1973) in September 1972 at Sonph and Kanha meadowa.

Merops orientalis Latham

Green bee-eater [IV]

Common throughout the Reserve from October to June.

Family CORACIIDAE

Coracias benghalensis (Linnaeus)

Indian roller [IV]

A common bird in the Reserve throughout the year except September to November. Most probably young are born in May.

Family UPUPIDAE

Upupa epops Linnaeus

Hoopoe [IV]

Seen in meadows, Sal forests and mixed type of forest at Kanha, Kisli, Sonph, Deotal and Mukki. Most Probably youngs are born in April.

Family BUCEROTIDAE

Tockus birostris (Scopoli)

Common grey hornbill [IV]

Common throughout the Reserve and mostly seen from October to July. Z. S. I. party has recorded it from Supkhar in January 1991.

Anthacoceros coronatus (Boddaert)

Malabar pied hornbill [IV]

Common throughout the Reserve and mostly noticed from October to July.

Family CAPITONIDAE

Megalaima zeylanica caniceps (Franklin)

Green Barbet [IV]

Commonly seen throughout the Reserve between August and June. Z. S. I. party has recorded it from Ghorela, Sondhar and Mukki. Feeds mainly on *Ficus* leaf buds. Most probably youngs are born in May.

Megalaima haemacephala indica (Latham)

Crimsonbreasted barbet [IV]

Observed at Kanha, Sonph, Kisli and Shrawantal between January and October. Z. S. I. party has recorded it from Ghorela.

Family PICIDAE

Micropternus brachyurus (Vieillot)

Rufous woodpecker [IV]

Seen generally in Sal forests throughout the park.

Picus myrmecophoneus Stresemann

Little scaly bellied green woodpecker [IV]

Seen in various types of habitat at Kanha, Kisli, Bisanpura, particularly between May and November.

Picus chlorolophus (Vieillot)

Small yellownaped woodpecker [IV]

Recorded by Guntert and Homberger (1973) at Sonph in Sal forest.

Dinopium benghalensis (Linnaeus)

Lesser goldenbacked woodpecker [IV]

Occur in all types of habitats at Kanha, Kisli Sonph and Kodaidadar. Z. S. I. party has recorded it from Mukki, Supkhar and Sondhar.

Picoides mahrattensis (Latham)

Yellowfronted pied woodpecker [IV]

A winter visitor. Recorded from Kodaidadar, Kopedubri and Muchadonga.

Picoides nanus (Vigors)

Pigmy woodpecker [IV]

Seen in all types of habitats in the Reserve. Recorded from Kanha, Kisli and Kodaidadar between January and March.

Chrysocolaptes festivus (Boddaert)

Blackbacked woodpecker [IV]

Observed at Kanha and Kodaidadar between October and June.

Family PITTIDAE

Mirafra assamica Horsfield

Bush Lark [IV]

The bird has been observed at Kanha by G. J. Norman in February 1981.

Eremopterix grisea (Scopoli)

Ashycrowned finch-lark [IV]

The bird has been observed in Rondha meadow by G. J. Norman in March 1981. Also recorded from Kanha meadow by S. Breeden in October 1982.

Ammomanes phoenicurus Franklin

Rufoustailed finch-lark [IV]

This finch-lark has been observed on Kanha and Sonph meadows from June to February.

Alauda gulgula (Franklin)

Eastern skylark [IV]

This bird could not be noticed within the Reserve. It has however been seen in several places in the buffer zone.

Family HIRUNDINIDAE

Hirundo rustica Linnaeus

Swallow [IV]

A winter visitor in the Reserve and numerous of them are seen flying over at several places.

***Hirundo smithii filifera* Stephens**

Wiretailed swallow [IV]

Generally seen between November and May. Maximum number of about 30 birds were noticed on Kanha anicut. Z. S. I. party has recorded it from Supkhar.

***Hirundo fluvicola* Blyth**

Indian cliff swallow [IV]

Recorded by Panwar (n.d.)

***Hirundo daurica* Linnaeus**

Red rumped swallow [IV]

Seen flying over water bodies at Kanha, Sonph and Rondha between December and June.

***Delichon urbica* Linnaeus**

House martin [IV]

A winter visitor. Observed over Kanha nad Kisli meadows, and Desi anicut.

Family LANIDAE

***Lanius excubitor* Linnaeus**

Grey shrike [IV]

A winter visitor in the Reserve. Notice on Kanha meadow and Bahmnidadar from January to March.

***Lanius vittatus* Valenciennes**

Baybacked shrike [IV]

Recorded by P. N. Newton from Kanha meadow in January 1982.

***Lanius schach* Linnaeus**

Rufousbacked shrike [IV]

A winter visitor. Recorded from Kanha and Sonph meadows from December to March.

***Lanius cristatus* Linnaeus**

Brown shrike [IV]

Observed in Kanha village and meadow, Kisli, Sonph and Rondha meadows from October to May. Z. S. I. Party has observed it at Supkhar.

Family ORIOLIDAE

***Oriolus oriolus* (Linnaeus)**

Golden oriole [IV]

Found in all types of habitats in the Reserve. Recorded from Kisli and Kanha. Z. S. I. party has observed it at Supkhar in January 1991.

***Oriolus xanthornus* (Linnaeus)**

Blackheaded oriole [IV]

Observed in all types of habitats of the Reserve. Recorded from Kanha, Kisli, Sonph and Kodaidadar between October and July.

Family DICRURIDAE

Dicrurus adsimilis (Bechstein)

Black drongo [IV]

Observed in all types of habitats of the Reserve. Recorded at Kanha, Kisli and Sonph. Occasionally found feeding on backs of barasingha. Most probably breeds in May-June.

Dicrurus leucophaeus Vieillot

Grey drongo [IV]

Observed on Kanha meadow from March to June.

Dicrurus caerulescens (Linnaeus)

Whitebellied drongo [IV]

Generally seen at Sal and mixed type of forests from January to December. Recorded from Kanha, Sonph, Kisli, Kodaidadar, Shrawantal and Deotal.

Dicurus hottentottus (Linnaeus)

Haircrested drongo [IV]

Common in all types of habitats of the Reserve. Recorded at Kanha, Sonph and Kisli meadows almost throughout the year. In March the bird has been noticed to feed flowering *Bombax cecilia* trees, probably on nectar. Nests are prepared on Sal trees in June.

Dicurus paradiseus (Linnaeus)

Greater racket-tail drongo [IV]

Found in different types of habitats of the Reserve almost throughout the year. Recorded from Kanha, Kisli, Kerighat and Kodaidadar.

Family ARTAMIDAE

Artamus fuscus Vieillot

Ashy swallow-shrike [IV]

Recorded by Panwar (n.d.).

Family STRUNIDAE

Sturnus malabarica (Gmelin)

Greyheaded myna [IV]

Occurs in all types of habitats of the Reserve from February to June. Recorded from Kanha, Kisli meadows and Desi nullah. Z. S. I. party recorded it from Mukki. In February-March feeds frequently at flowering of *Bombax cecilia* trees. Breeding takes place probably in May-June.

Sturnus pagodarum (Gmelin)

Brahminy myna [IV]

It is a bird of meadows and has been recorded from Kanha and Silpura. In February-March feed frequently at flowering of *Bombax cecilia*.

Sturnus roseus (Linnaeus)

Rosy pastor [IV]

Observed in Kanha meadow in March feeding on flowering of *Bombax cebia*.

Sturnus contra Linnaeus

Pied myna [IV]

Observed from rainy season to winter months in Kanha and Sonph Meadows. In February-March feeds frequently at flowering of *Bombax cebia*.

Acridotheres tristis (Linnaeus)

Common myna [IV]

Noticed in all types of habitats of the Reserve almost throughout the year. Recorded from Kanha, Kisli, Chuchi mutta and Sonph meadows. Z. S. I. party has recorded common myna from Supkhar, Ghorela, Bhaisanghat and Mukki. In May feeds on *Lannea coromandelica* fruits. Many times seen perching on and feeding from chital, barasingha and blackbacks.

Acridotheres ginginianus (Latham)

Bank myna [IV]

Guntert and Homberger (1973) recorded it at Desi nullah in September 1972.

Acridotheres fuscus (Wagler)

Jungle myna [IV]

Recorded from Kanha, Sonph and Silpura meadows between March and June. Z. S. I. party recorded it from Mukki. Feeds on flowering of *Bombax cebia* and fruits of *Syzygium cumini* in March and May respectively.

Family CORVIDAE

Dendrocitta vagabunda (Latham)

Indian tree pie [IV]

Seen in all types of habitats of the Reserve almost throughout the year. A common bird everywhere.

Corvus splendens Vieillot

House crow [IV]

Found throughout the year at Kanha, Kisli, Mukki, Supkhar and Motinala around the villages and adjoining Sal forests.

Corvus macrorhyncos Wagler

Jungle crow [IV]

Observed in all types of habitats of the Reserve almost throughout the year. A most common species here. In March feed on flowering of *Bombax cebia* and common scavenger at ungulate carcasses. Probably breeds around May.

Family CAMPEPHAGIDAE

Hemipus pictus (Sykes)

Pied flycatcher-shrike [IV]

It is a bird of dense bamboo thickets and mixed forests. Recorded from Kodai dadar, Kanha, Shrawanchitta, Mundridadar and Churi nullah.

Tephrodornis pondicerianus (Gmelin)

Common wood shrike [IV]

Found in all types of habitats of the Reserve mostly from February to October. Recorded from Kanha, Kisli, Kodaidadar and Shrawanchitta. Z. S. I. party has also obtained it from Mukki and Supkhar.

Coracina novaehollandiae macei (Lesson)

Large cuckoo-shrike [IV]

Found in different types of habitats from January to October around Kanha, Kisli and Kodaidadar. Z. S. I. party has recorded it from Sondhar, Ghorela, Mukki and Manjitola.

Coracina melanoptera (Ruppell)

Blackheaded cuckoo-shrike [IV]

Recorded by P. N. Newton from Kanha meadow and Menhar bund in March 1980.

Pericrocotus flammeus seminuber Whistler & Kinner

Scarlet minivet [IV]

Found almost throughout the year in Sal and mixed type of forests. Common in Sulkum valley, Deotal, Kodaidadar and Bijadadar. Z. S. I. party has recorded it from Bisanpura, Majitola, Sondhar, Karorbehara, Bhaisangarh hills, Gorela and Mukki.

Pericrocotus roseus (Vieillot)

Rosy minivet [IV]

Occurs in Sal or in bamboo thickets in Kanha area from March to April. S. Breeden recorded this bird gathering nest material in May. Ali and Ripley (1964 – 74) do not record this bird breeding in central India, nor remaining beyond April.

Pericrocotus cinamomeus (Linnaeus)

Small minivet [IV]

Occurs in all types of habitats of the Reserve from January to October. Common in Sal forests in Sulkum valley. Z. S. I. party has recorded it from Mukki, Bhaisanghat, Supkhar and Karorbehara.

Pericrocotus ethologus favillaceus Bangs & Phillips

Longtailed minivet [IV]

Z. S. I. party has recorded the bird from Mukki and Supkhar. No earlier record of it is available from this Reserve. This bird commonly found in open deciduous forests.

Family IRENIDAE

Aegithina tiphia humei Baker

Common iora [IV]

Seen almost in all types of habitats in the Reserve mainly from October to June. Common in Sulkum valley. Z. S. I. party has recorded it from Supkhar.

Chloropsis aurifrons (Temminck)

Goldfronted chloropsis [IV]

Found almost in all types of habitats in the Reserve throughout the year. Recorded from Kanha and Kisli. In February–March feeds at flowering *Bombax cebia*.

Chloropsis cochinensis jerdoni (Blyth)

Goldmantled chloropsis [IV]

It is a winter visitor in the Reserve and has been recorded from Kanha and Kodaidadar. Z. S. I. party has obtained this bird from Supkhar and Mukki also.

Family PYCNONOTIDAE

Pycnonotus jacosus (Linnaeus)

Redwhiskered bulbul [IV]

A bird mostly seen in mixed type of forest in small flocks. Seen at Shrawanchitta. Z. S. I. party has also recorded it from Supkhar, Garhi and Mukki.

Pycnonotus cafer Linnaeus

Redvented bulbul [IV]

Seen in all types of habitats from October to August. Common throughout the Reserve. Z. S. I. party has recorded it from Ghorela, Supkhar, Bhaisanghat, Suria and Sondhar. In May feeds on *Lannea coromandelica* fruits. Nest building was noticed by S. Breeden in May in Sal tree at Kanha.

Family MUSICAPIDAE

Pellorneum ruficeps Swainson

Spotted babbler [IV]

It is both winter and summer visitor in the Reserve. Prefers mixed forests. Seen at Brohindubra, Churi and Sulkum nullahs. Z. S. I. party has obtained it from Mukki.

Pomatorhinus horsfieldii Sykes

Slatyheaded scimitar babbler [IV]

Both winter and summer visitor. Noticed in dense bamboo tracts at Kisli, Kanha, Kodaidadar and adjoining Sulkum nullah.

Dumetia hyperythra (Franklin)

Rufousbellied babbler [IV]

Both winter and summer visitor and seen almost in all types of habitats of the Reserve. Recorded from Kanha, Sonph, Kodaidadar and Bisanpura.

Chrysomma sinense (Gmelin)

Yelloweyed babbler [IV]

Found throughout the year almost in all types of habitats of the park. Recorded from Kanha and Sonph in tall trees bordering nullahs.

Turdoides malcolmi (Sykes)

Large grey babbler [IV]

Recorded by Panwar (n.d.).

Turdoides striatus orientalis (Jerdon)

Jungle babbler [IV]

Both winter and summer visitor and found in all types of habitats of the Reserve. Z. S. I. party has recorded it from Ghorela, Mukki and Motinala. S. Breeden has noticed building of nest at Kanha in June 1982.

Alcippe poiocephala brucei Hume

Quaker babbler [IV]

Both winter and summer visitor in the Reserve and generally seen in Sal or mixed types of forests. Reported from Kanha, Kisli, Kodaidadar, Kulughat, Kopedubri and Mahadeo gogra. Z. S. I. party has obtained it at Mukki.

Muscicapa muttui (Layard)

Brownbreasted flycatcher [IV]

Reported by S. Breeden from Kopedubri in November 1982.

Muscicapa parva Bechstein

Red breasted flycatcher [IV]

A winter visitor and found in Sal or mixed type of forest. Common throughout Sulkum valley.

Muscicapa superciliaris Jerdon

Whitebrowed blue flycatcher [IV]

A winter visitor and found in all types of habitats of the Reserve. Recorded from Kanha, Kisli and Kodaidadar.

Muscicapa ticklliae (Blyth)

Tickell's blue flycatcher [IV]

It is both winter and summer visitor and seen in different types of habitats of the Reserve. Recorded from Kanha, Kisli, Bahmnidadar, Kodaidadar and Mahadeo gogra.

Muscicapa thalassina Swainson

Verditer flycatcher [IV]

A winter visitor in the Reserve and has been recorded from Kanha, Kisli and Bahmnidadar.

Culicicapa ceylonensis (Swainson)

Greyheaded flycatcher [IV]

A winter visitor in the Reserve and has been recorded from Kanha, Kisli, Bahmnidadar, Kerighat and Chhindi Pathar.

Rhipidura aureola Lesson

Whitebrowed fantail flycatcher [IV]

This is also a winter visitor and found in all types of habitats of the Reserve. Reported from Kanha, Kisli, Bahmnidadar and Deotal.

Rhipidura albicollis (Vieillot)

Whitethroated fantail flycatcher [IV]

P. N. Newton recorded it in dense bamboo thickets at Shrawanchitta.

Terpsiphone paradisi (Linnaeus)

Paradise flycatcher [IV]

Found in meadow and Sal forests between May and January. Recorded at Kanha.

Hypothymis azurea (Boddaert)

Blacknaped flycatcher [IV]

Found in all types of habitats of the Reserve during summer and winter. Common throughout Sulkum valley.

Cisticola juncidis (Rafinesque)

Streaked fantail warbler [IV]

Both winter and summer visitor and commonly found in meadows of Kanha and Sonph. Breeding probably takes place in and around July.

Prinia hodgsonii Blyth

Franklin's wren-warbler [IV]

Found from January to June and even up to October–November in all types of habitats of the Reserve. Reported from Kanha, Kisli, Sonph, Kopedubri and Kodaidadar. Z. S. I. party has recorded it from Sondhar.

Prinia subflava inornata Sykes

Plain wren-warbler [IV]

A winter visitor and seen on Kanha meadow and reedy nullah banks of Kopedubri. Z. S. I. party has obtained it from stream side long grasses at Supkhar.

Prinia socialis Sykes

Ashy wren-warbler [IV]

Both summer and winter visitor and generally found in reedy areas, nullah banks throughout Sulkum valley. Breeds probably around June-July.

Prinia sylvatica Jerdon

Jungle wren-warbler [IV]

Found in most types of habitats at Kanha and Kodaidadar, in reedy habitats.

Orthotomus sutorius guzurata (Latham)

Tailor bird [IV]

Common in different types of habitats in Sulkum valley from December to August. Z. S. I. party has recorded it from Mukki. Probably breeds around June.

Sylvia curruca (Linnaeus)

Lesser whitethroat [IV]

Recorded by S. Breeden from Kanha village in March 1981.

Phylloscopus collybita (Vieillot)

Brown leaf warbler [IV]

A winter visitor in the Reserve and has been recorded from Kanha, Kodaidar and Kisli.

Phylloscopus affinis (Tickell)

Tickell's leaf warbler [IV]

Seen in small parties in mixed forests of the Reserve during summer and winter.

Phylloscopus trochiloides viridans Blyth

Dull green leaf warbler [IV]

Seen in small parties in mixed forests during summer and winter. Z. S. I. party has recorded it from Mukki, Bhaisanghat, Sondhar and Aurai.

Phylloscopus griseolus Blyth

Olivaceous leaf warbler [IV]

A winter visitor in the Reserve. Z. S. I. party obtained it at Mukki. A specimen was also taken at Balaghat away from the area.

Phylloscopus magnirostris Blyth

Largebilled leaf warbler [IV]

A winter visitor in the Reserve. Z. S. I. party obtained it at Mukki.

Erithacus calliope (Pallas)

Rubythroat [IV]

Recorded by P. N. Newton in tall grass meadow around Churi nullah.

Erithacus svecicus (Linnaeus)

Bluethroat [IV]

Recorded by G. N. Norman from Kanha and Rounda meadows.

Copsychus saularis (Linnaeus)

Magpie-robin [IV]

A winter and a summer visitor and occurs in different types of habitats of the Reserve. Common throughout Sulkum valley.

Copsychus malabaricus (Scopoli)

Shama [IV]

Both summer and winter visitor and seen in the bamboo areas of Kodaidadar, Kanhaghat, Deotal and Mahadeo gogra.

Phoenicurus ochruros (S. G. Gmelin)

Black redstart [IV]

A winter visitor and seen in all types of habitats of the Reserve. Reported from Kisli and Sonph. Common around Kanha rest house.

Saxicola torquata (Linnaeus)

Stone chat [IV]

Both summer and winter visitor. Common in the Sulkum valley; especially around Kanha, Rondha and Sonph meadows.

Saxicola caprata (Linnaeus)

Peid bush chat [IV]

Both summer and winter visitor. Common on Kanha and Sonph meadows, especially in patches of tall grasses.

Saxicola ferra Gray

Dark-grey bush chat [IV]

Recorded on meadows near Kanha anicut and in small meadow within Sal forest with *Flemingia* ungrowth, beside Kanha-Sonph road (c 5 km north of Kanha). Ripley (1982) states that this species over-winters south to the Gangetic plain. Thus the findings (by P. N. Newton *et. al*) constitutes its first record from central India.

Saxicoloides fulicata (Linnaeus)

Indian robin [IV]

Commonly seen in Kanha meadows and other areas of the Reserve.

Monticola cinclorhynchus (Vigors)

Blueheaded rock thrush [IV]

A winter visitor and commonly seen in Sal and mixed forests. Recorded from Kanha and Shrawanchitta.

Monticola solitarius (Linnaeus)

Blue rock thrush [IV]

Recorded by G. J. Norman from Kanha and Bahmnidadar in February and March 1981.

Zoothera citrina (Latham)

Orangeheaded ground thrush [IV]

Both summer and winter visitor. Common on ground in dense bamboo thickets. Also seen in Sal and mixed forests. Seen at Churi nullah and in hills surrounding Sulkum valley.

Turdus merula Linnaeus

Blackbird [IV]

Commonly seen in mixed type of forest. Recorded from Muchadonga, Kulughat, Mahadeo gogra and Chhindi Pathar.

Family PARIDAE

Parus major stupae Koelz

Grey tit [IV]

Found in all types of habitats in the Reserve throughout year. Common in Sulkum valley. Z. S. I. party has obtained material of this species from Ghorela, Mukki and Bhaisanghat.

Parus xanthogenys aplonotus Blyth

Yellowcheeked tit [IV]

Commonly found in meadows, Sal forest, mixed forest or bamboo thickets almost throughout the year. Recorded from Sulkum valley and Morcha village. Z. S. I. party has obtained it from Mukki, Bhaisanghat, Bishangarh and Gorela.

Cephalopyrus flammiceps (Burton)

Firecapped tit [IV]

A winter visitor and generally seen in mixed type of forests. Z. S. I. party has recorded it from Sondhar.

Family SITTIDAE

Sitta castanea Lesson

Chestnutbellied nuthatch [IV]

Both summer and winter visitor and mostly found in Sal forest. Recorded from Kanha meadow.

Sitta frontalis Swainson

Velvetfronted nuthatch [IV]

Both summer and winter visitor and generally found in Sal or mixed forest. Recorded from Kanha, Sonph, Deotal and Bijadadar. Z. S. I. party has obtained material from Manjitola, Mukki and Bhaisanghat.

Family MOTACILLIDAE

Anthus hodgsoni Richmond

Indian tree pipit [IV]

Both summer and winter visitor and commonly found in Sal or mixed forest of Kanha and Kodaidadar.

Anthus novaeseelandiae Gmelin

Paddyfield pipit [IV]

Generally found in meadows of Kanha, Rondha, Sonph and Kisli both in summer and winter. Breeds probably by June–July.

Anthus campestris (Linnaeus)

Twny pipit [IV]

Recorded by S. Breeden from Kanha meadow in November 1982.

Motacilla citriola Pallas

Yellowheaded wagtail [IV]

A winter visitor and mostly found at Kanha and Sonph, on nullah banks.

Motacilla cinerea Tunstall

Grey wagtail [IV]

A bird of meadows, both summer and winter visitor. Recorded from Kanha, Sonph, Kerighat and Deotal from vicinity of water. Z. S. I. party has obtained it from Bhaisanghat, Bishanpur and Mukki.

Motacilla alba Linnaeus

White wagtail [IV]

A winter visitor and recorded from meadows and mixed forests of Kanha.

Motacilla maderaspatensis Gmelin

Large pied wagtail [IV]

Recorded by P. N. Newton while foraging among boulders in Banjar river at Mukki.

Family DICAEDAE

Dicaeum agile (Tickell)

Thickbilled flowerpecker [IV]

A winter visitor and found in Sal forests at Kanha and Moucha. Breeds around May. Nests are build on small height trees. In a nest at Morcha 3 egg were noticed by S. Breeden in May 1982.

Dicaeum erythorhynchos (Latham)

Tickell's flowerpecker [IV]

A winter visitor. Seen in Sal or in mixed forests at Kodaidadar and Kanha between January and March. Z. S. I. party has obtained it from Bhaisangarh.

Family NECTARINIIDAE

Nectarinia asiatica (Latham)

Purple sunbird [IV]

Both summer and winter visitor and commonly seen in meadows, Sal or mixed forest of Sal and bamboo throughout Sulkum valley. Feeds at flowers of *W. fruticosa*. Observations of G. J. Norman and S. Breeden affirms that the breeding period of purple sunbird continues from March to May within the Reserve.

Family ZOSTEROPIDAE

Zosterops palpebrosa (Temminck)

White eye [IV]

Found in different types of habitats almost throughout the year in the Reserve. Common in Sulkum valley. Z. S. I. party has obtained it from Ghorela, Supkhar and Bishanpur. Feed at flowering *Woodfordia fruticosa*.

Family PLOCEIDAE

Passer domesticus (Linnaeus)

House sparrow [IV]

A resident bird and found throughout Kanha and buffer zones, as also in other areas of the Reserve all the year. Not found in forest away from villages.

Petronia xanthocollis (Burton)

Yellowthroated sparrow [IV]

A winter visitor and found in meadows, Sal and mixed forest from February to April. Common in Sulkum valley.

Ploceus philippinus (Linnaeus)

Baya [IV]

Three breeding colonies were noticed by S. Breeden at Morcha village in buffer zone.

Estrilda amandava (Linnaeus)

Red munia [IV]

Both summer and winter visitor and normally found in meadows of Kanha, Sonph, especially on burnt grounds.

Estrilda formosa (Latham)

Green munia [IV]

Recorded by Guntert and Hoberger (1973) at Churi nullah in September 1972.

Lonchura striata (Linnaeus)

Whitebacked munia [IV]

A winter visitor in the park and mostly seen in the meadows of Kanha. Breeding starts probably by March-April.

Lonchura punctulata (Linnaeus)

Spotted munia [IV]

Flocks of 20 or more birds often seen feeding on Kanha meadows in nullah grasslands. Z. S. I. party has also recorded it from Supkhar grasslands.

Lonchura malacca (Linnaeus)

Blackheaded munia [IV]

Both winter and summer visitor mostly is seen in meadows and mixed forests of Kanha, Benipat, Shrawanchitta and Kopecdubri.

Family FRINGILLIDAE

Carpodacus erythrinus (Pallas)

Common rosefinch [IV]

A common winter visitor and flocks of about 50 or more often seen from October to March in meadows or mixed forests of Kanha, Kodaidadar and Shrawancitta.

Family EMBERIZIDAE

Melophs lathami subcristatus (Sykes)

Crested bunting [IV]

S. Breeden has recorded one male from Kanha meadow in October 1982. Z. S. I. party has received it from Supkhar.

Emberiza bruniceps Brandt

Redheaded bunting [IV]

A winter visitor in the Reserve. Z. S. I. party has recorded it from Supkhar.

REFERENCES

- Ali, S. 1939. The birds of central India. *J. Bombay nat. Hist. Soc.*, **41** : 82-106, 470-488.
- Ali, S. and Ripley, S. D. 1968-74. *Handbook of the birds of India and Pakistan*. Vols. 1-10. Oxford University Press, Bombay.
- Ali, S. and Ripley, S. D. 1983. *A pictorial guide to the birds of the Indian Subcontinent*. Oxford Univ. Press, Delhi and Oxford.
- Anderson, K. 1979. *Jungles long ago*. Rupa and Co., Calcutta.
- Baker, E. C. S. 1922-31. *The fauna of British India*. 8 Vols. Taylor and Francis, London.
- D'Abreu, E. A. 1935. A list of birds of the Central Provinces. *J. Bombay nat. Hist. Soc.*, **38** : 95-116.
- Guntert, M. and Homberger, D. 1973. Die Vogel des Kanha-National Parkes am Ende der Monsun-Regenzeit. In Kurt, F. (1973), pp. 31-53.

- Hewetson, C. E. 1939. The bird year in Betul. *J. Bombay nat. Hist. Soc.*, 41 : 286-310.
- Heewtson, C. E. 1955. Observations on the bird life of Madhya Pradesh. *J. Bombay nat. Hist. Soc.*, 53 : 595-645.
- Newton, P. N. 1986. Leapfrogging in egrets. *J. Bombay nat. Hist. Soc.*, 83(2) : 432-433.
- Osmaston, B. B. 1927. Birds of Pachmarhi. *J. Bombay nat. Hist. Soc.*, 28 : 453-459.
- Panwar, H. S. (n.d.) : Management Plan for Kanha. Tiger Reserve, M. P. 1973-74 to 1978-79. M. P. Forest Dept. (Mimeo).
- P. N. Newton, S. Breeden and G. J. Norman 1986. The birds of Kanha Tiger Reserve, Madhya Pradesh, India. *J. Bombay nat. Hist. Soc.*, 83(3) : 477-498.
- Ranjitsinh, M.K. 1983. Occurrence of lesser florican (*Sypheatices Indica*) in Kanha National Park. *J. Bombay nat. Hist. Soc.*, 80(3) : 41.
- Ripley, S. D. 1982. *A synopsis of the birds of India and Pakistan*. Bombay Nat. Hist. Soc., Bombay.
- Wright, M. D. 1942. Notes on the birds of Berar. *J. Bombay nat. Hist. Soc.*, 43 : 428-445.

MAMMALIA

INTRODUCTION

Important account of the wildlife of central India are available from Foresyth (1872), Rudman (1912) and many others, but a complete account of the mammalian fauna of the Kanha Tiger Reserve is lacking. Some information are however obtained from Brander (1906, 1923), Ghose (1967, 1971), Schaller (1967), Martin (1977), Newton (1988) and Chakraborty (in press). Some consolidated lists are available from Panwar (n.d.) and Anon (1986, 1990, 1993, ect.).

This paper enlists 67 species and subspecies of mammals from Knaha Tiger Reserve, belonging to 53 genera, 26 families and 9 orders. It is mainly prepared based on the data available in literature. However, information collected during field study in this Reserve by the Zoological Survey of India party headed by Dr. R. K. Ghose in 1991 has been largely used in preparation of the list. Moreover, mammal material obtained from this area by the Zoological Survey of India parties from time to time have also been utilised in the compilation of the list.

Classification maintainted here has mainly been adopted after Ellerman and Morrision-Scott (1951) and Honaki *et. al* (1982). For identification of rodents and other mammals, Blanford (1988-91) and Ellerman (1961) have been followed.

Figures given in square bracket [] indicate Schedules of the Indian Wild Life (Protection) Act, 1972 to which the species is included.

All measurements given in this paper are in millimeters.

Abbreviations used : H. & B. = Head and body ; TL. = Tail ; H. F. = Hindfoot ; E. = Ear ; F. A. = Forearm ; Tib. = Tibia ; F. & CL. = Foot and claw ; coll. = Collected by.

SYSTEMATIC ACCOUNT

Order SCANDANTIA

Family TUPAIIDAE

Anathana ellioti pallida Lyon

(Madras Tree Shrew)

1913. *Anathana pallida* Lyon, *Proc. U. S. nat. Mus.*, 45 : 124. Munbhum, Bihar, India.

Status and distribution in the Reserve : Uncommon. Occurs in certain areas but rarely seen for its shy habits. A single specimen was observed by Z. S. I. party in January 1991 at Supkhar while climbing a tree out of fear.

Range : Bihar, Madhya Pradesh, Orissa and West Bengal.

Habits and habitat : It is an expert climber and takes to trees as a means of escape or for

shelter. It makes a rough nest in trees and lives singly or in pairs. The food consists mainly of insects, but fruits, small birds are also eaten. The female gives birth to one young at a time.

Order INSECTIVORA

Family SORICIDAE

Suncus murinus murinus (Linnaeus)

(House Shrew)

1859. *Sorex murinus* Linnaeus, *Syst. Nat.*, 12 ed., 1 : 74. Java

Material examined : 1 unsexed : Kanha, Mandla dist., M. P. ; 19.i.1991 ; R. K. Ghose coll. 1 M; Mukki, Balaghat dist., M. P. ; 23.i.1991 ; R. K. Ghose coll. 2 M, 1 F ; Supkhar, Balaghat dist., M. P. ; 2-4. ii.1991 ; R. K. Ghose coll.

<i>Measurements</i> :	3 M	1 F
H. & B.	95-115	98
TL.	57-70	66
H. F.	14-18	10
E.	12-13	10

Status and distribution in the Reserve : Common. Found throughout the Reserve near human habitations, forest rest houses and adjoining residential quarters during night.

Range : Occurs throughout Penninsular India.

Habits and habitat : Nocturnal in habit and is useful insect destroyer. Gives birth to 2-4 young at a time in a rough nest made by them with straw, dead leaves and other debris in dried up drains, holes, etc.

Suncus etruscus perrotteit (Duvernoy)

(Pygmy Shrew)

1842. *Sorex perrotteit* Duvernoy, *Mag. Zool. Paris*, pp. 29. Nilgiri Hills, India.

Status and distribution in the Reserve : Uncommon. Distributed throughout the Reserve, but rarely seen. Two specimens were observed under a stone near Supkhar.

Range : Widely distributed in penninsular India.

Habits and habitat : Nocturnal in habit and very small in size. Known to feed on insects. Found under stones or leaf litters in forests.

Suncus stoliczkanus (Anderson)

(Anderson's Shrew)

1877. *Crocidura (Pachyura) stoliczkana* Anderson, *J. Asiat. Soc. Beng.*, 46 : 270. Bombay, India.

Status and distribution in the Reserve : Uncommon. Occurs throughout the park but seldom seen.

Range : Madhya Pradesh, Maharashtra, Tamil Nadu and West Bengal.

Habits and habitat : Nocturnal in habit. Lives under log and burrow. Feeds on insects.

Order CHIROPTERA

Family PTEROPODIDAE

Rousettus leschenaulti (Desmarest) [V]

(Indian Fulvous Fruit Bat)

1820. *Pteropus leschenaulti* Desmarest, *Encycl. Meth Mamm.*, 1 : 110. Pondicherry, India.

Status and distribution in the Reserve : Uncommon but occasionally seen. Two specimens were seen at Mukki.

Range : Distributed throughout the Indian mainland and also in the hills up to a certain height.

Habits and habitat : It often haunts caves ; nocturnal in habit. A voracious fruit eater and capable of flying at least 23 to 24 km. away from roost in search of food.

Pteropus giganteus (Brunnich) [V]

(Indian Flying Fox)

1782. *Vespertilio gigantea* Brunnich, *Dyrenes Historie*, 1 : 45. Bengal, India.

Material examined : 1 M, 1 F ; Supkhar, Halon Valley, Balaghat dist., M. P.; 27.ix.1959; ; B. Biswas coll.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve where trees with fruits are available.

Range : Widely distributed throughout India except in highly arid areas.

Habits and habitat : Nocturnal in habit. Roost on branches of trees near source of water. It is a well known pest of cultivated fruits and orchards.

Cynopterous sphinx (Vahl) [V]

(Short-nosed Fruit Bat)

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

Material examined : 3 M, 4 F ; Mukki, Balaghat dist., M. P.; 25.i.1991 : R. K. Ghose coll.

<i>Measurements</i> :	3 M	4 F
F. A.	74.5	72-77
Tib.	29.5-30.5	28.5-31.8
F. & Cl.	16-17	13-17
E.	19-21	19.7-20.5

Status and distributions in the Reserve : Very common in the Reserve. Besides Mukki, specimens were also seen at Kanha, Supkhar and Motinala.

Range : Widely distributed all over India.

Habits and habitat : Nocturnal in habit. Roosts on branches of trees and are pests of trees with fruits and orchards.

Family EMBALLONURIDAE

Taphozous longimanus Hardwicke

(Long-armed Sheath-tailed Bat)

1825. *Taphozous longimanus* Hardwicke, *Trans. Linn. Soc. Lond.*, 44 : 525. Calcutta, India.

Status and distribution in the Reserve : Not known.

Range : Widely distributed in southern peninsula of India, northwards to Gujarat and Rajanshan, eastwards to West Bengal.

Habits and habitat : Nocturnal in habit and feeds on insects. Roosts in burrows of trees and crevices of buildings where males and females occupy separate places.

Taphozous nudiventris kachhensis Dobson

(Nacked-bellied Tomb Bat)

1872. *Taphozous kachhensis* Dobson, *J. Asiat. Soc. Beng.*, 41 : 221. Cutch, India.

Status and distribution in the Reserve : Uncommon. A small colony was found living in the crevices of ceiling of old Rest House at Kanha.

Range : Karnataka, Maharashtra, Madhya Pradesh, Gujarat, Rajasthan, Jammu and Kashmir, Delhi, Uttar Pradesh, Bihar and Sikkim.

Habits and habitat : Nocturnal in habit. Feeds on insects. Roosts in crevices of old building.

Taphozous melanopogon Temminck

(Black-bearded Tomb Bat)

1841. *Taphozous melanopogon* Temminck, *Mon. Mamm.*, 2 : 287. Indonesia, Java.

Status and distribution in the Reserve : Uncommon. A small colony was found roosting in a palm tree near Mukki.

Range : Widely distributed in peninsula of India south at least to western ghats.

Habits and habitat : Nocturnal in habit. Feeds on insects.

Saccolaimus saccolaimus (Temminck)

(Pouch-bearing Bat)

1838. *Taphozous saccolaimus* Temminck, *Tijdschr. Nat. Gesh. Physiol.*, 5 : 14. Indonesia, Java.

Status and distribution in the Reserve : Uncommon. A single dead specimen was found at Motinala.

Range : Widely distributed in peninsular India, Sri Lanka, S. E. Asia to Sumatra, Borneo, Java and Timor ; New Guinea.

Habits and habitat : Nocturnal in habit and feeds on insects. A common hunter of caves and buildings.

Remarks : Ellerman and Morrison-Scott (1951) treated *saccolaimus* under the genus *Taphozous*. However, Honaki *et. al* (1982) kept it under the genus *Saccolaimus* Temminck (1838) : *Tijdschr. Nat. Gesch. Phisiol.*, 5 : 14.

Family MEGADERMATIDAE

Megaderma lyra Geoffroy

(Indian False Vampire)

1810. *Megaderma lyra* Geoffroy, *Ann. Mus. N. H. Paris*, 15 : 190. Madras, India.

Material examined : 1 M, 7 F ; Janewara Cave, Kanha Forest Range, Mandla dist., M.P.; 19.i.1991; R. K. Ghose coll. 1 F ; Mukki, Balaghat dist., M. P. 22.i.1991 ; R. K. Ghose coll.

<i>Measurements</i> :	1 M	7 F
F. A.	66	66-77.7
Tib.	34.5	34.5-36.5
F. & Cl,	17.6	13.5-17.8
E.	37.6	37.6-40.7

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. A large colony was found at Janewara cave in Kanha Forest Range, along with *Hipposideros lankadiva*.

Range : Widely distributed throughout Indian main land.

Habits and habitat : Nocturnal in habit. Roosts in cave or in deserted buildings. Though it eats insects, it also feeds on small rodents, bats, birds, lizards, frogs, etc.

Family RHINOPOMATIDAE

Rhinopoma hardwickei Gray

(Lesser Rat-tailed Bat)

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

Status and distribution in the Reserve : Not exactly known, but a few individuals were seen in flight in late hours of night over a stream at Motinala.

Range : Karnataka, Kerala, Tamil Nadu, Gujarat, Madhya Pradesh, Jammu and Kashmir, Delhi, Uttar Pradesh, Rajasthan, Orissa and West Bengal.

Habits and habitat : Nocturnal in habit. Feeds on insects and haunts caves and buildings.

Family RHINOLOPHIDAE

Rhinolophus rouxi Temminck

(Rufous Horse-shoe Bat)

1835. *Rhinolophus rouxi* Temminck, Mongr. Mamm., 2 : 306. Pondicherry and Calcutta.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Some specimens were seen flying in a bamboo thicket at Supkhar.

Range : Sri Lanka and India to S. China and Vietnam.

Habits and habitat : Nocturnal in habit. Feeds on insects. Roosts in caves or in hollow tree trunk.

Rhinolophus lepidus Blyth

(Little Indian Horse-shoe Bat)

1844. *Rhinolophus lepidus* Blyth, *J. Asiat. Soc. Bengal*, 13 : 486. Calcutta (uncertain).

Status and distribution in the Reserve : Common. Specimens were seen at Kanha and Kisli.

Range : Afghanistan, India, Burma, Thailand, Szechwan Yunnan (China), Malaya and Sumatra.

Habits and habitat : Nocturnal in habit. Feeds on insects. Roosts in hollow of trees, and caves.

Hipposideros lankadiva Kelaart

(Kelaart's Leaf-nosed Bat)

1850. *Hipposideros lankadiva* Kelaart, *J. Sri Lanka Branch Asiat. Soc.*, 2 (2) : 216. Kandy, Sri Lanka.

Material examined : 4 M, 12 F; Janewara Cave, Kanha Forest Range, Mandla dist., M. P.; 19.i.1991; R. K. Ghose coll.

Measurements :	4 M	12 F
F. A.	88.1-90.5	85.4-88.2
Tib.	32.3-36.1	31-36.1
F. & Cl.	16.0-16.4	13.2-16.0
E.	24.3-25.5	22.0-26.5

Status and distribution in the Reserve : Common. Occurs throughout the reserve. A colony was found living in a cave at Janewara along with *Megaderma lyra*. A specimen was also seen at Mukki.

Range : Sri Lanka; South and central India. Also known from West Bengal.

Habits and habitat : Nocturnal in habit. It is insectivorous and hunts on beetles and cicadas. Roosts in caves.

Family MOLOSSIDAE

Tadarida plicate (Buchannan)

(Wrinkle-lipped Bat)

1800. *Vespertilio plicatus* Buchannan, *Trans. Linn. Soc. Lond.*, 5 : 261 (pl. 13). Bengal, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. A small colony was found roosting at Mukki Forest Rest House.

Range : India and Sri Lanka to S. China and Vietnam, southeast to Philippines.

Habits and habitat : Nocturnal; insectivorous. A high and powerful flyer, haunts caves and buildings in large numbers.

Remarks : Honacki *et. al* (1982) treated *plicate* under the genus *Chaerephon* Dobson (1874 : *J. Asiatic Soc. Bengal*, 43 : 144).

FAMILY VESPERTILIONIDAE

Pipistrellus coromandra (Gray)

(Indian Pipistrelle)

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

Status and distribution in the Reserve : Common. Occurs throughout the Reserve and is seen in flight during evening hours. Specimens were recorded at Supkhar, Motinala and Garhi.

Range : Afghanistan, Pakistan, India (including Nicobar Islands), Sri Lanka, Nepal, Bhutan, Burma, S. China, Thailand and Vietnam.

Habits and habitat : Feeds on insects from sunset to dawn, with intervals for rest. Roosts in crevices of buildings and huts.

Pipistrellus mimus Wroughton

(Indian Pygmy Pipistrelle)

1899. *Pipistrellus mimus* Wroughton, *J. Bombay nat. Hist. Soc.*, 12 : 722. Mheskatri, Dangs, Gujarat, India.

Status and distribution in the Reserve : Common. Specimens were seen at Kanha, Kisli, Sonph, Mukki, Supkhar and Motinala.

Range : Afghanistan, Pakistan, Sri Lanka, India, Nepal, Bhutan, Burma, Vietnam and Thailand.

Habits and habitat : Comes out for feeding at sunset (in cloudy sky earlier) and feeds till dawn with intervals for rest. Feeds on insects. Roosts in crevices of buildings, huts, trees and deserted baya's nests.

***Pipistrellus ceylonicus chrysothrix* Wroughton**

(Kelaart's Pipistrelle)

1899. *Pipistrellus chrysothrix* Wroughton, *J. Bombay nat. Hist. Soc.*, 12 : 720. Mheskatri, Surat Dangs, India.

Material examined : 1 M, 1 F; Supkhar, Halon Valley, Balaghat dist., M. P.; 27.ix.1959; B. Biswas coll.

Status and distribution in the Reserve : Common, Occurs throughout the Reserve.

Range : Gujarat, from central India to W. Bengal.

Habits and habitat : Nocturnal in habit. Feeds on small insects. Roosts in hollows of trees and building crevices.

***Scotophilus kuhli* Leach**

(Lesser Yellow Bat)

1822. *Scotophilus kuhli* Leach, *Trans. Linn. soc. Lond.*, 13 : 72. "India"

Material examined : 1 M, 3 F; Supkhar, Halon Valley, Balaghat dist., M. P.; 28.i.1966; K. K. Tiwari coll.

Status and distribution in the Reserve : Common in Supkhar, Garhi and Motinala areas.

Range : Widely distributed throughout the Indian mainland and Nicobar Islands; Pakistan ; Sri Lanka ; eastwards to Taiwan, Malaya, Philippines and Aru Isls.

Habits and habitat : Nocturnal in habit. Feeds on insects. Roosts in crevices and ceilings of buildings and huts.

Order PRIMATES

Family CERCOPITHECIDAE

***Macaca mulatta* (Zimmerman) [II]**

(Rhesus Macaque)

1780. *Cercopithecus mulatta* Zimmermann, *Geogr. Gesch. Mensch.*, 2 : 195. Nepal Terai, India.

Status and distribution in the Reserve : Common in many areas of the Reserve. A troop of 7 individuals (3 M, 3 F, 1 infant) was observed across the Banjar river on way to Baihar; feeding young twigs of plants on the ground.

Range : Afghanistan and India to Thailand, China and Hainan Isl (China).

Habits and habitat : Feeds mainly on the ground during day time. Ground plants, insects and spiders are the common food.

Presbytis entellus entellus Dufresne [II]

(Hanuman Langur)

1797. *Simia entellus* Dufresne, *Bull. soc. Philom. Paris*, 1 (7) : 49. Bengal, India.*Material examined* : 2 F; Manjitola, Balaghat dist., M. P.; 7.x.1957; B. Biswas coll. 1 F; Mukki, Balaghat dist., M. P.; 9.ix.1957; R. L. Fernandez coll.*Status and distribution in the Reserve* : Fairly distributed throughout the Reserve and is often seen feeding on trees and the ground. Two troops were seen one in Kanha Forest Range and the other on bank of Banjar river at Mukki.*Range* : India; Nepal; S. Tibet; Sri Lanka and perhaps Kashmir.*Habits and habitat* : Habits and habitat : Feeds on fruits, flowers, buds, shoots and leaves. Feeding starts at dawn, rests in shade during the hottest hours of the day, again go for feeding in the afternoon. Feeding ends with sunset. A troop is known to return in the same roosting place every night.

Order PHOLIDOTA

Family MANIDAE

Manis crassicaudata Gray

(Indian Pangolin)

1827. *Manis crassicaudatus* Gray, in *Griffith's Cuvier Anim. Kingd.*, 5 : 282. India.*Status and distribution in the Reserve* : Reported to occur at places, but uncommon.*Range* : Pakistan, east to West Bengal (India) and SW Yunnan (China), south to Sri Lanka.*Habits and habitat* : Nocturnal; feeds of eggs, termites, ants, etc.; burrows in ground to depth of 2 to 3 metres where it lives in pairs. Also takes shelter among rocks and boulders.

Order CARNIVORA

Family CANIDAE

Canis lupus pallipes Sykes [I]

(Wolf)

1831. *Canis pallipes* Sykes, *Proc. zool. Soc. Lond.*, p. 101. Deccan, India.*Status and distribution in the Reserve* : Uncommon. Occurs throughout the Reserve. A pair was seen on way to Kanha from Kisli.*Range* : Range include Andhra Pradesh, Karnataka, Maharashtra, Gujarat, Madhya Pradesh, Rajasthan, Orissa, Uttar Pradesh, Bihar, West Bengal and Assam.

Habits and habitat : Hunts, often in pair, by day or by night and prey varies from rodent to human child. Seldom associate in larger packs than six or eight—probably family parties. Breeds at the end of rains and litters are dropped in December.

***Canis aureus* Linnaeus [II]**

(Asiatic Jackal)

1758. *Canis aureus* Linnaeus, *Syst. Nat.*, 10th. ed., 1 : 40. Lar Prov., Iran.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Often seen, particularly in Kanha Range, running or sitting on the road.

Range : North and east Africa, south to Senegal, Nigeria and Tanzania; south-west Asia; south-east Europe; Trans caucasisa; central Asia; Iran; Afghanistan; southern Asia (including India and Sri Lanka) to Thailand.

Habits and habitat : Usually comes out at dusk and retires at dawn. During day time hide to caves and crevices of rocks, in bushes or in dens dug in the ground. Feeds on various animals and fruits. Breeds all the year round.

***Vulpes bengalensis* (Shaw) [II]**

(Bengal Fox)

1800. *Canis bengalensis* Shaw, *Gen. Zool. Syst. Nat.*, 1 (2) : 330. "Bengal"

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Often seen running during evening hours or in the night, particularly in Kanha Range.

Range : Throughout India; Pakistan; S. Nepal.

Habits and habitat : During day time lives in self-dug burrow and comes out at dusk. Feeds on small mammals, reptiles, land crabs, insects (including termites), melon, *Zizyphus* furits, etc. Breeds in winter, usually four cubs are born in a litter between February and April.

***Cuon alpinus dukhunensis* (Sykes) [II]**

(Indian Wild Dog)

1831. *Canis dukhunensis* Sykes, *Proc. zool. Soc. Lond.*, p. 100. Deccan, India.

Status and distribution in the Reserve : Uncommon. Twice this animal was seen moving in grassland in front of old rest house at Knaha. Once its call was heard around Bichiã.

Range : This subspecies occurs throughout the peninsular India, south of the Ganga river.

Habits and habitat : Lives in forest and hunts in a pack during day, rarely during night. Preys upon deer, pig and even large animals like Gaur, Nilgai and Leopard. Breeds in winter.

Family URSIDAE

***Melursus ursinus* (Shaw) [II]**

(Sloth Bear)

1791. *Bradypus ursinus* Shaw, *Nat. Misc.*, 2 (unpaged), pls. 58-59. Patna, Bihar, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. An individual was seen at Supkhar.

Range : Sri Lanka; India, north to the Indian desert and to the foothills of the Himalayas.

Habits and habitat : Nocturnal in habit. Lives in natural caves or in forest places where rock and boulder offer them shelter. Sense of smell acute. Feeds on insects, particularly termites, honey, fruits and flowers of several trees and Mahua (*Madhuka latifolia*) in particular. Breeds in June and young are born in December and January.

Family MUSTELIDAE

Mellivora capensis indica (Kerr) [I]

(Ratel)

1792. *Ursus indicus* Kerr, *Anim. Kingd.*, p. 188. India.

Status and distribution in the Reserve : Rare. Occurs in dardars and rocky areas with vegetative cover.

Range : Within Indian limits, from the base of Himalayas to Cape Comorin except Malabar Coast.

Habits and habitat : Nocturnal in habit. Spend the day in holes or under dense cover. Preys on small mammals, birds, reptiles and insects and also takes fruits and honey. Two young are born at a time.

Lutra perspicillata Geoffroy [II]

(Smooth-coated Indian Otter)

1826. *Lutra perspicillata* Geoffroy, *Dict. Class. Hist. Nat.*, 9 : 519. Sumatra, Indonesia.

Status and distribution in the Reserve : Uncommon. Reported to occur in tanks and streams in the Reserve.

Range : Iraq and almost all over India, eastwards of Vietnam, Malaya and Sumatra. Possibly Borneo.

Habits and habitat : Lives by the margins of lakes, streams, tanks and canals. Fish is their main food, but eat whatever they can capture and kill when fish is not available. Though built for aquatic life can travel long distance in search of food or water. Most cubs appear to be born early in the year.

Family VIVERRIDAE

Viverricula indica (Desmarest) [II]

(Small Indian Civet)

1817. *Viverra indica* Desmarest, *Nouv. Dict. Hist. Nat. Paris*, 7 : 170. India.

Status and distribution in the Reserve : Uncommon. Occurs scattered throughout the Reserve. Seen two specimens at Bahmidadar and Mukki respectively while crossing the road at night.

Range : Sri Lanka; throughout India to S. China and Hainan Isl., and Malaya Peninsula; Taiwan; Java; Kangean Isl.; Sumbawa; Bali. Introduced to Madagascar.

Habits and habitat : Nocturnal in habit. Lives in holes or under rocks and bushes but prefers long grass and scrubs. Preys on small mammals and birds, lizards, insects, etc. Also takes various fruits, roots of trees, etc. The young are seen at all times of the year. Four to five young may be produced at birth.

***Paradoxurus hermaphroditus* (Pallas) [II]**

(Common Palm Civet)

1777. *Viverra hermaphrodita* Pallas, *In Schreber, Die Säugethiere*, 3 : 426. India.

Status and distribution in the Reserve : Common and occurs throughout the Reserve, but not visually recorded.

Range : Sri Lanka and throughout India to S. China, Hainan Is., Malaysia; Philippine Is.; W. Indonesia.

Habits and habitat : Nocturnal in habit, hunts in the trees or on the ground. Food includes birds and small mammals, but also feeds on fruits and palm juice (toddy). Youngs are born at all seasons and are usually delivered in tree holes or under a shelter of rocks. Litter size is three or four.

Family HERPESTIDAE

***Herpestes edwardsi nyula* (Hodgson) [IV]**

(Indian Grey Mongoose)

1836. *Mangusta (Herpestes) nyula* Hodgson, *J. Asiat. Soc. Beng.*, 5 : 236. Nepal (low lands).

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Often noticed while crossing roads, particularly around habitation.

Range : Assam. W. Bengal, Bihar, Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh and Orissa.

Habits and habitat : Generally lives in tunnels (with bolt hole) in the ground. Hunt by day and prey on rats, mice, snakes, lizards, frogs, beetles and other insects, scorpions, centipeds and bird-eggs. Breeds all the year round.

***Herpestes smithi* Gray [IV]**

(Ruddy Mongoose)

1837. *Herpestes smithi* Gray, *Charlesworth's Mag. Nat. Hist.*, 1 : 578. Bombay, India.

Status and distribution in the Reserve : Occurs in dense forest part of the Reserve. Exact status not known.

Range : From southern Bihar to Cape Comorin in India and Sri Lanka.

Habits and habitat : Forest dwelling form. Hunt, singly or a male and female together during day and night. Food includes small rats, mice, snakes, lizards, insects, small birds and its eggs. Breeds all the year round.

Family HYAENIDAE

Hyaena hyaena (Linnaeus) [III]

(Striped Hyaena)

1758. *Canis hyaena* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 40. Benna Mtns., Laristan, S. Iran.

Status and distribution in the Reserve : Distributed in small numbers throughout the Reserve. Faeces were seen near Bishanpura.

Range : India ; Nepal ; north and east Africa, south Tanzania; Asia Minor to Arabia;Iran; Transcaucasia ; Turkmenia (U.S.S.R).

Habits and habitat : Nocturnal in habit. During the day lie concealed in high grasses, under bushes, caves in rocks or holes dug inside hills or ravines. Usually hunt in pairs. Animals that have died of disease or those killed by larger beasts of prey are the usual food. Takes the coarser remains and heavier bones which others reject. Sometimes also kill and eat smaller animals. Mates in winter and young are born during summer season.

Family FELIDAE

Felis chaus kutas Pearson [II]

(Jangle Cat)

1832. *Felis kutas* Pearson, *J. Asiat. Soc. Beng.*, 1 : 75. Midnapore, W. Bengal, India.

Material examined : 1 F; Supkhar, Halon Valley, Balaghat dist., M. P.; 27.ix.1957; G. A. Von Maydel coll.

Status and distribution in the Reserve : Common. This cat was also seen near Shrawantal and Magarnallah.

Range : West Bengal, Bihar, Uttar Pradesh, Rajasthan, Gujarat, Madhya Pradesh and Orissa.

Habits and habitat : Nocturnal in habit. Takes shelter in the bushes, crevices of trees, deserted houses, grasslands, scrub jungle and reedy banks of rivers and marshes. Causes much damage to small games of all kinds and when near human settlement to poultry. Breeds twice a year.

Felis bengalensis Kerr [I]

(Leopard Cat)

1792. *Felis bengalensis* Kerr, *Anim. Kingd.*, 1 : 151. Sunderbans, Bengal, India.

Status and distribution in the Reserve : Uncommon. Reported to occur throughout the Reserve. A single specimen was seen near Supkhar.

Range : Oriental region west to Baluchistan and southeast to Taiwan; Philippine Isls., Java, Bali and Borneo ; lower Amur (E. Siberia) through Korea and N. E. China.

Habits and habitat : Nocturnal in habit. A forest animal, and largely arboreal, sheltering in hollows and rocks. Preys upon small birds animals, destructive to poultry. 3 or 4 young are born in May.

***Panthera pardus fusca* (Meyer) [I]**

(Leopard)

1794. *Felis fusca* Meyer, *Zool. Ann.*, 1 : 394. Bengal.

Status and distribution in the Reserve : Occurs throughout the Reserve. A pair was seen near Mukki Forest Rest House.

Range : Throughout India in suitable habitat.

Habits and habitat : Lives and thrives in a variety of habitats, even in open country and among rocks and scrubs, also climbs trees. Hunts by night and frequently by day time also. Preys upon all kinds of animals which it can overpower with safety and also birds, reptiles and crabs. Breeds throughout the year and two to four cubs are produced in a litter.

***Panthera tigris* (Linnaeus) [I]**

(Tiger)

1758. *Felis tigris* Linnaeus, *Syst. Nat.*, 10th ed., 1 : 41. Bengal, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Male specimens were seen at Sonph, Supkhar and on Kisli-Kanha road. A female, with three cubs were also seen near Parsatola.

Range : Throughout India except in desert areas. Also occurs in other parts of the Oriental region (except Borneo and Philippines) ; north to extreme S. E. Siberia.

Habits and habitat : Generally hunts games of all kinds, even fish and carrions, between sunset and dawn. Lives in various habitats like humid forest, dry and open jungle and grassy swamps. Breeds after rains and young are born between February and May.

Order ARTIODACTYLA

Family SUIDAE

***Sus scrofa cristatus* Wagner [III]**

(Indian Wild Boar)

1839. *Sus cristatus* Wagner, *Munch. Gelehrt. Anz.*, 9 : 435. Malabar Coast, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Specimens were seen at Kanha, Mukki and Supkhar.

Range : Throughout India in forested tracts.

Habits and habitat : Lives among grass or scanty bush jungle and sometimes in forest. Omnivorous and lives on crops, roots, tubers, insects, snakes, offal and carrion. Feeds in early morning or late evening and during disturbed conditions at night. Breeds all the seasons giving birth to four to six young.

Family TRAGULIDAE

Tragulus meminna (Erxleben) [I]

(Mouse Deer)

1777. *Moschus meminna* Erxleben, *Syst. Regn. Anim.*, 1 : 322. Sri Lanka.*Status and distribution in the Reserve* : Not known.*Range* : Forested areas of peninsular India up to 24°N latitude; Sri Lanka; Nepal.*Habits and habitat* : A timid creature, lives in grasscovered rocky hill sides or inside forest or in crevices of rocks. Feeds, in early morning or at dusk, on more or less succulent vegetation and fallen fruits. Breeds in May-June and usually two youngs are born at the end of rains.

Family CERVIDAE

Muntiacus muntjak aureus (H. Smith) [III]

(Barking Deer)

1826. *Cervus aureus* H. Smith, *Griffith's Cuvier Anim. Kingd.* 4 : pl. opp. pl. 148. Southern India.*Status and distribution in the Reserve* : Common. Occurs throughout the Reserve. A specimen was seen twice on Kisli-Kanha Road.*Range* : *M. m. aureus* is found throughout the peninsular India.*Habits and habitat* : Live in thick jungle and comes out for grazing in the outskirts of forest or in clear openings. Diurnal in habit, grazes singly or in pairs on various leaves, grasses and wild fruits. Breeds in all seasons and one to two youngs are born at a time.*Axis axis* (Erxleben) [III]

(Spotted Deer)

1777. *Cervus axis* Erxleben, *Syst. Regn. Anim., Mamm.*, 1 : 312. "Banks of the Ganga river" Bihar, India.*Status and distribution in the Reserve* : Common. Occurs throughout the Reserve. Often seen in groups.*Range* : Sri Lanka, throughout India and Nepal. Introduced in N. E. New Guinea, Hawaii and New Zealand.*Habits and habitat* : Less nocturnal in habit and feeds on various leaves, grasses and wild fruits till late in the morning and in the afternoon. It takes shelter in some shaded spots near stream or water sources in the forest. A prolific breeder and gives birth to a single fawn at an interval of six months.*Cervus unicolor niger* Blainville [III]

(Sambar)

1816. *Cervus niger* Blainville, *Bull. Soc. Philom. Paris*, pp. 77. Probably northern India.*Status and distribution in the Reserve* : Common. Occurs throughout the Reserve. Often seen singly or in pairs.

Range : Found in the forested areas throughout northern, central and southern India.

Habits and habitat : Forested hill-sides are the favourite haunt of this animal. Feeds mainly at night on grass, leaves and various wild fruits. Pairing takes place in November-December and the youngs are born at the commencement of rains, in late May or early June.

***Cervus duvauceli branderi* (Pocock) [I]**

(Barasingha)

1943. *Rucervus duvarceli branderi* Pocock, *J. Bombay nat. Hist. Soc.*, 43 : 558. Mandla, M. P., India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Often seen in herds of 5 to 15 at Kanha, Shrawantal, Rawandatal and Bisanpura areas of the Reserve.

Sinha (1973, 1979, 1986) and Khajuria and Sinha (1986) have dealt with the population of this subspecies. These authors mentioned that in total 365 individuals (112 males, 183 females, 70 fawns) survive in Kanha National Park. According to Panwar the total number of Branderi Barasingha in 1988 was 547 individuals (129 males, 356 females and 62 fawns).

Range : Distribution is now restricted to Kanha Tiger Reserve only.

Habits and habitat : Chiefly a grass-deer, avoids thick forest and inhabits grassy maidans in proximity of forests and water sources. Feeds mostly on grass till late in the morning, again in the evening and lie up in shades during daytime. Prefers to lie in water to avoid diurnal heat, more so in summer. The rut period is mainly mid-December to mid-January.

Family BOVIDAE

***Tetracerus quadricornis* (Blainville) [I]**

(Four-horned Antelope)

1816. *Cerophorus (Cervicapra) quadricornis* Blainville, *Bull. Soc. Philom. Paris*, p. 75. India.

Status and distribution in the Reserve : Rare. A male was seen on Kanha-Kisli Road only once.

Range : Found throughout India except Malabar coast; Nepal.

Habits and habitat : The animal is a denizen of bush and thin forests. Takes shelter in tall grass and open jungle. More dependant on water than others of their kind and seldom lives far from it. Usually seen alone or in pairs. Feeds mainly in the day on grass, leaves and wild fruits. Pairs during monsoon and one or two fawns are born in winter.

***Boselaphus tragocamelus* (Pallas) [III]**

(Nilgai)

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

Status and distribution in the Reserve : Uncommon. In total eighteen animals were seen in two herds at Silpura maidan and Arunakhero.

Range : Indian peninsula from base of Himalayas to Karnataka and certain areas in Maharashtra. Does not occur in Assam, Malabar coast and eastern Bengal.

Habits and habitat : Areas sparsely dotted with trees are the usual haunts and avoids dense forests. Feeds on leaves and fruits till late in the morning and again in early evening. Remains in shade during hot hours of the day. The fleshy fallen flowers of 'Mohua' attract this animal. It may live without water for a long period even during hot weather. It has the habit of visiting the same spot to deposit its droppings. The young are produced at all seasons.

Bos gaurus H. Smith [I]

(Gaur)

1827. *Bos gaurus* H. Smith, *Griffith's Cuvier Anim. Kingd.*, 4 : 399. Mainpat, Sarguja, India (c 23° N, 83° E Latitudes and longitudes).

Status and distribution in the Reserve : Uncommon. A herd of fourteen including calves were seen at Bishnapura.

Range : Within the Indian limits it is found in the forests of peninsular India and the foothills of the Himalayas up to Assam.

Habits and habitat : Lives in small herds, foraging from late evening to early morning. Food consists chiefly grass, also browse on leaves and eat the bark of some trees. Mating takes place during winter or early spring and generally calves are born during September-October.

Antelope cervicapra centralis Zukowsky [I]

(Blackbuck)

1928. *Antelope centralis* Zukowsky, in Hangenbeck Illuster. Tier. U. Menschenwelt. 3 : 60. Gwalior, India.

Status and distribution in the Reserve : Uncommon. Only a herd of five could be seen near Shrawantal.

Range : Distribution of this subspecies is restricted to central India only.

Habits and habitat : Lives in open plains covered with scrubs or in open forests with wide expanses of grass. Feeds on grass and cereal crops till noon and again in the late afternoon. Late winter and spring are the main rutting times.

Order LAGOMORPHA

Family LEPORIDAE

Lepus nigricollis mahadeva Wroughton & Ryley [IV]

(Pachmarhi Hare)

1913. *Lepus mahadava* Wroughton & Ryley, *J. Bombay nat. Hist. Soc.*, 22 : 15. Dhaim, Mahadeo Hills, Panchmari, M. P., India.

Material examined : 2 M (1 juv.), 1 F; Mukki, Banjar Valley, Balaghat dist., M.P.; 2, 17, 21 September 1957. 1 M; Supkhar, Halon Valley, Balaghat dist., M. P.; 26 September 1957. All B. Biswas coll.

<i>Measurements :</i>	2 M	1 F
H. & B.	466, 477	650
TL.	70, 87	95
H. F.	105, 106	105
E.	94, 95	99

Status and distribution in the Reserve : Common species and is available throughout the Reserve.

Range : *L. n. mahadeva* occurs from Hoshangabad district to Shahdol district only in Madhya Pradesh.

Habits and habitat : The Pachmari hare has been observed to make its den in the vicinity of water, e.g., hill streams and canals in four major types of habitats, such as (1) under low shrub, (2) bushes composed of tall grasses mixed with *Zyzyphus* bushes, (3) bushes composed of tall grasses only and (4) bushes composed of young palm trees. Their food consist of grasses, tender twigs, etc. At Motinala they have been observed to be pests on the fields growing pea (*Pisum sativum*). In darker nights they come out for feeding just after sunset, while in moonlit evenings they emerge at late hours (Ghose 1971).

Caprolagus hispidus (Pearson) [I]

(Hispid Hare)

1839. *Lepus hispidus* Pearson. In M' Clelland, *Proc. zool. Soc. Lond.*, 1838 : 152.

Status and distribution in the Reserve : Uncommon. Two specimens were seen—one at Kisli and the other at Mukki. However, their faecal pellets were found in several places at Kisli, Mukki and Supkhar.

Range : Assam, West Bengal, Bihar and Uttar Pradesh. The present finding from Kanha Tiger Reserve constitutes its first record on the southern side of the Ganga river.

Habits and habitat : The hispids inhabit the grass jungle in the primeval Sal forest areas.. It is a slow moving rabbit and less endowed with good power of running. It lives singly or in pairs and seldom invades the cultivated fields where competition exists with the Rufoustaild Hare in northern India or Pachmarhi Hare in M.P. for foraging. Mainly feeds the shoots of grass and their roots. Also reported to take barks of trees. It breeds twice or therice in a year and the litter size is 2-5.

Order RODENTIA

Family SCIURIDAE

Petaurista petaurista philippensis (Elloit) [II]

(Common Giant Flying Squirrel)

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

Status and distribution in the Reserve : Uncommon. A single specimen was seen near Mukki Rest House during night.

Range : Southern peninsular India northwards to Orissa and Surat district in Gujarat.

Habits and habitat : Lives in the hollow of old trees and feeds on fruits, nuts, barks and insects. Very little is known about their breeding habits.

***Funambulus palmarum robertsoni* Wroughton**

(Indian Palm Squirrel)

1916. *Funambulus robertsoni* Wroughton, *J. Bombay nat. Hist. Soc.*, 24 : 647. Pachmarhi, Hoshangabad dist., M. P.

Material examined : 1 M, 1 F ; Mukki, Balaghat dist., M.P.; 30.viii.1957 and 7.ix.1957; B. Biswas coll. 1 F; Kanha, Mandla dist., M.P.; 18.i.1991; R. K. Ghose coll.

<i>Measurements</i> :	1 F
H. & B.	158
TL	142
H. F.	37
E.	16

Status and distribution in the Reserve : Common. Often seen during day time throughout the Reserve, feeding or climbing on trees.

Range : Central India.

Habits and habitat : Feeds on insects, fruits, nuts, leaves, etc. and are said to destroy the egg of small birds. It builds a ragged sort of nest of any fibrous matter on tree branches where it sleeps rolled up in a ball with its head bent down between legs. Breeds throughout the year.

***Funambulus pennanti* Wroughton [IV]**

(Five-striped Squirrel)

1905. *Funambulus pennanti* Wroughton, *J. Bombay nat. Hist. Soc.*, 16 : 411. Mandvi Taluka, Surat, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Specimens were seen near Rest Houses at Kanha and Mukki.

Range : E. Iran to Nepal, throughout northern India, central India, Maharashtra, Gujarat and Rajasthan.

Habits and habitat : It is not a forest from bat live with man and shelters in hosues, gardens, groves and hedges and on road side trees. It feeds on furits nuts, young shoots, buds and barks. Breeds throughout year and two to three youngs are born in a litter.

***Ratufa indica centralis* Ryley [II]**

(Indian Giant Squirrel)

1918. *Ratufa indica centralis* Ryley, *J. Bombay nat. Hist. Soc.*, 22 (3) : 437. Bori, Hoshangabad dist., M. P.

Status and distribution in the Reserve : Uncommon. A single specimen was seen on a tree near Banjar River at Mukki.

Range : Widely distributed in Peninsular India.

Habits and habitat : An inmate of large forests, living in pairs and nesting high up in tree holes. Feeds on vegetable foods, insects and eggs.

Family HYSTRICIDAE

***Hystrix indica indica* Kerr [IV]**

(Indian Crested Porcupine)

1792. *Hystrix cristata* var *indica* Kerr, *Anim. Kingd.*, P. 213. India.

Status and distribution in the Reserve : Uncommon. No specimen could be seen but quills were found on way to Bahmidadar, a little ahead of Shrawantal.

Range : Throughout India except northeastern part of the country.

Habits and habitat : Nocturnal in habit and lives in burrows. Vegetables of all kinds, grain, fruits, and roots are their main food. It has the habit of gnawing bones found in the jungles. 2 to 4 young are produced during February-March.

Family MURIDAE

***Vandelluria oleracea* (Bennett) [V]**

(Indian Long-tailed Tree Mouse)

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

Status and distribution in the Reserve : Not known. Perhaps due to its nocturnal habit.

Range : Sri Lanka; Nepal to Burma; Yunnan (China); Thailand; N. Indochina.

Habits and habitat : The animal is a climber, living and nesting in trees and sometimes in the roofs of houses. It is herbivorous in habit. Breeds throughout the year and gives birth to 3-4 young at a time.

***Cremnomys blanfordi* (Thomas) [V]**

(Blanford's Rat)

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

Material examined : 1 M; Mukki, Balaghat dist., M. P.; 23.ix.1991; R. K. Ghose coll.

<i>Measurements :</i>	1 M
H. & B.	185
TL.	201
H. F.	33.5
E.	28.5

Status and distribution in the Reserve : Common throughout the Reserve.

Range : Sri Lanka; south and central India.

Habits and habitat : A forest dwelling form. Lives in burrow or tree holes. Known to feed on young plants and shoots. Breeds throughout the year.

***Rattus rattus rufescens* (Gray) [V]**

(Dark-bellied House Rat)

1837. *Mus rufescens* Gray, *Ann. Mag. Nat. Hist.*, 1 : 35. Dharwar, India.

Material examined : 1 M; Kanha, Mandla dist., M.P.; 15.i.1991; R. K. Ghose coll. 1 M; Mukki, Balaghat dist, M.P.; 21.i.1991; R. K. Ghose coll. 1 M; Supkhar, Balaghat dist., M.P.; 28.i.1991; R. K. Ghose coll.

<i>Measurements :</i>	3 M
H. & B.	141-180
TL.	184-201
H. F.	30-32.5
E.	23-24

Status and distribution in the Reserve : Common throughout the Reserve.

Range : Throughout India.

Habits and habitat : A common commensal form; lives in burrows and houses.

***Rattus rattus wroughtoni* Hinton [V]**

(White-bellied House Rat)

1919. *Rattus rattus wroughtoni* Hinton, *J. Bombay nat. Hist. Soc.*, 26 : 384. Nilgiri Hills, India.

Material examined : 4 M, 2 F; Kanha, Mandla dist., M. P.; 15-19.i.1991; R. K. Ghose coll. 1 M, 3 F; Mukki, Balaghat dist., M. P.; 30.viii.1957, 4.ix.1957, 20.x.1957, 30.x.1957; B. Biswas coll. 3 M, 3 F; Mukki, Balaghat dist., M. P.; 21-26.i.1991; R. K. Ghose coll. 3 M, 3 F; Supkhar, Balaghat dist., M. P.; 25-27.ix.1957; B. Biswas coll. 6 M; Supkhar, Balaghat dist., M. P.; 28.i.1991-2.ii.1991; R. K. Ghose coll.

<i>Measurements :</i>	11 M	4 F
H. & B.	155-180	148-178
TL.	175-230	183-217
H. F.	30-32.5	29.5-32
E.	22-25	21-23

Status and distribution in the Reserve : Common throughout the Reserve.

Range : Southern Peninsular India.

Habits and habitat : A common form found in residential complex as well as in the field.

***Mus booduga booduga* (Gray) [V]**

(Little Indian Field Mouse)

1837. Leggada booduga Gray, Charlesworth's Mag. Nat. Hist., 1 : 586. Southern Mahratta, India.

Material examined : 2 M; Janewara, Kanha Forest Range, Mandla dist., M. P.; 19.i.1991; R. K. Ghose coll. 1 M; Mukki Balaghat dist., M. P.; 25.i.1991; R. K. Ghose coll.

<i>Measurements :</i>	3 M
H. & B.	53-58
TL.	49-57
H. F.	13-14
E.	9-12

Status and distribution in the Reserve : Common species in the Reserve and found everywhere.

Range : Throughout India.

Habits and habitat : An out-door species found in fields, gardens and woods, occassionally in houses.

***Mus platytrix* Bennett [V]**

(Brown Spiny Mouse)

1832. *Mus platytrix* Bennett, *Proc. zool. soc. Lond.*, p. 121. Deccan, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Specimens were recorded from Mukki and Motinala.

Range : Found almost throughout India.

Habits and habitat : A common forest form. Nocturnal in habits. Lives in burrows in pairs.

***Golunda ellioti* Gray [V]**

(Indian Bush Rat)

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

Status and distribution in the Reserve : Uncommon. A single specimen was found in the bushes at Supkhar.

Range : Sri Lanka; India; Nepal; Bhutan; Pakistan.

Habits and habitat : It is a wood rat, makes a round or oval nest of grasses in bushes or on the ground. Diurnal in habit and feeds on grass roots but has also been found as pest in plantations. Breeds throughout the year.

***Bandicota bengalensis* (Gray) [V]**

(Lesser Bandicoot Rat)

1833. *Arvicola bengalensis* Gray, *Ill. Indian Zool.*, 2, pl. 21. Bengal, India.

Status and distribution in the Reserve : Common. Occurs throughout the Reserve. Burrows were found in different places at Kanha, Mukki, Supkhar and Motinala.

Range : Sri Lanka; Pakistan; India to Sumatra, Java and Penang Isl.

Habits and habitat : A common out-door rodent making large burrows, sometimes extending an area of few meters. Feeds on grasses, grain, roots etc. Breeds throughout the year.

***Bandicota indica* (Bechstein) [V]**

(Large Bandicoot Rat)

1800. *Mus indicus* Bechstein, *Ueber, Vief. Thiere*, 2 : 497. Pondicherry, India.

Status and distribution in the Reserve : Not exactly known. A single specimen was found on the bank of Banjar river at Mukki.

Range : Sri Lanka; India to S. China, Vietnam, Sumatra and Java.

Habits and habitat : It makes burrows near tanks. Swims well and feeds on crabs, small molluscs, grass, grain, roots etc.

***Tatera indica* (Hardwicke) [V]**

(Indian Gerbil)

1807. *Dipus indicus* Hardwicke, *Trans. Linn. Soc. Lond.*, 8 : 279. Between Benares and Hardwar, U. P., India.

Material examined : 1 M, 2 F; Motinala, Mandla dist., M. P.; 28-29.i.1966; K. K. Tiwari coll.

<i>Measurements</i> :	1 M	2 F
H. & B.	156	165, 166
TL.	190	199, 176
H. F.	39	39, 40
E.	24	24.5, 22

Status and distribution in the Reserve : Not very common everywhere. Besides Motinala some burrows were seen at Supkhar.

Range : Sri Lanka; India; Pakistan; Afghanistan; Nepal; Iran; Iraq; Kuwait; Syria.

Habits and habitat : This pretty rat is capable of jumping and lives in burrows. It feeds on grains, roots and grass. Breeds throughout the year.

REFERENCES

- Blanford, W. T. 1888-1891. *The fauna of British India including Ceylon and Burma*. Taylor and Francis, London.
- Brander, A. A. D. 1906. Working plan for the forests of the Banjar Valley Reserve, Mandla Forest Division, Northern Circle, C. P., for the period 1904-1935. Pioner Press, Allahabad.
- Brander, A. A. D. 1923. *Wild animals in Central India*. Edward Arnold, London.
- Chakraborty, T. K. Report on the occurrence of *Rattus rattus wroughtoni* Hinton, 1918 (Mammalia : Rodentia : Muridae) in Madhya Pradesh, India. *Rec. zool. Surv. India*. (in press)
- Ellerman, J. R. 1961. *The fauna of India including Pakistan and Ceylon*, 2nd ed., Vol. 3, Rodentia, Parts 1 and 2. Zool Surv. India, Calcutta.
- Ellerman, J. R. and Morrison-Scott, T. C. S. 1951. *Checklist of Palaearctic and Indian Mammals*. British Museum (Nat. Hist.), London.
- Ghose, R. K. 1967. Notes on the taxonomy and distribution of the Pachmarhi Hare, *Lepus nigricollis mahadeva* Wroughton & Ryley (Mammalia : Lagomorpha : Leporidae). *J. Bombay nat. Hist. Soc.*, **64** (2) : 355-358.
- Ghose, R. K. 1971. Field observations on the habits of the Pachmarhi Hare, *Lepus nigricollis mahadeva* Wroughton & Ryley, in Madhya Pradesh, India. *J. zool. Soc. India* **23** (2) : 167-169.
- Honaki, J. H., Kinman, K. E. and Koeppl, J. W. 1982. Mammal species of the world. Allen Press, Lawrence, Kansas, U. S. A.
- Khajuria, H. and Sinha, N. K. 1986. Limiting factors in the population dynamics of vanishing Central Indian Swamp Deer, *Cervus duvauceli branderi* (Pocock) : 478-492. In : *Wildlife Wealth of India*, (ed.) T. C. Majupuria. Tecpress Service, L. P., Bangkok.
- Martin, C. 1977. Status and ecology of the barasingha (*Cervus duvauceli branderi*) in Kanha National Park (India). *J. Bombay nat. Hist. Soc.*, **74** : 61-132.
- Newton, P. N. 1988. The ecology and social organisation of hanuman langur (*Presbytis entellus* Dufresne 1797) in Kanha Tiger Reserve, Central Indian highlands. D. Phil thesis, Univ. of Oxford.
- Panwar, H. S. (n. d.). Management plan for Kanha Tiger Reserve, M. P. 1973-74 to 1978-79. M. P. Forest Dept. (Mimeo.).
- Rudman, F. R. R. 1912. Central Provinces District Gazetters : Mandla District. Bombay.
- Schaller, G. B. 1967. The deer and tiger. Chicago Univ. Press, Chicago.
- Sinha, N. K. 1986. Hard ground Barasingha, *Cervus duvauceli branderi* : 493-504. In : *Wildlife Wealth of India*, (ed.) T. C. Majupuria. Tecpress Service, L. P. Bangkok.
- Sinha, N. K. 1979. A contribution to the study of Indian wildlife. Ph.D. Thesis of Jabalpur University.

- Sinha, N. K. 1973. A dwindling population of swamp deer, *Cervus duvauceli branderi* Pocock (Family Cervidae : Mammalia). *Cheetal*, **15** (4) : 41-48.
- Anon. 1986. Twenty-sixth meeting of Steering Committee (Project Tiger). Ministry of Environment & Forests. Bikaner House, New Delhi. (Mimeo.)
- Anon. 1990. Project Tiger. Ministry of Environment & Forests. New Delhi.
- Anon. 1993. Fauna of Tiger Reserves : An overview. Zoological Survey of India, Calcutta.
- Anon. Important fauna of Tiger Reserves. Project Tiger, Ministry of Environment & Forests, New Delhi. (date of publication not available).