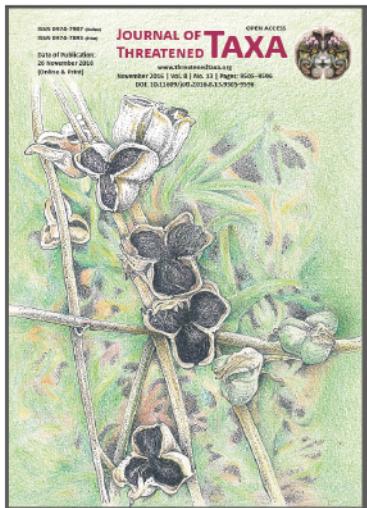


OPEN ACCESS

All articles published in the Journal of Threatened Taxa are registered under Creative Commons Attribution 4.0 International License unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.



Journal of Threatened Taxa

The international journal of conservation and taxonomy

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

COMMUNICATION**FAUNAL DIVERSITY OF SATARA DISTRICT, MAHARASHTRA, INDIA**

Amit Sayyed

26 November 2016 | Vol. 8 | No. 13 | Pp. 9537–9561

10.11609/jott.3162.8.13.9537-9561



For Focus, Scope, Aims, Policies and Guidelines visit http://threatenedtaxa.org/About_JoTT.asp

For Article Submission Guidelines visit http://threatenedtaxa.org/Submission_Guidelines.asp

For Policies against Scientific Misconduct visit http://threatenedtaxa.org/JoTT_Policy_against_Scientific_Misconduct.asp

For reprints contact <info@threatenedtaxa.org>

Publisher/Host

Partner





FAUNAL DIVERSITY OF SATARA DISTRICT, MAHARASHTRA, INDIA

Amit Sayyed

Wildlife Protection and Research Society, 40, Rajaspura Peth, Satara, Maharashtra 415002, India
amitsayedsatara@gmail.com

ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

OPEN ACCESS



Abstract: Satara District of Maharashtra State is a part of northern Western Ghats and Deccan Plateau biogeographic zones. The data on various faunal groups was collected from the extensive study carried out during the period between 2007 and 2010, covering different parts of the district. The present study reports faunal diversity of the district with 677 species under 150 families belonging to 11 different groups. Overall, the district has substantial faunal diversity. Out of the total species, 94 are recorded as endemic species, 35 species are listed as threatened under the IUCN Red List of Threatened Species, and 38 species are listed in the different schedules of Indian Wildlife (Protection) Act 1972 (as amended up to 2013). The information on geographical distribution pattern of mammalian species in the district is also provided.

Keywords: Faunal diversity, Satara, Maharashtra.

DOI: <http://dx.doi.org/10.11609/jott.3162.8.13.9537-9561> | **ZooBank:** urn:lsid:zoobank.org:pub:8E565297-1A9D-49F9-81EE-F982FAC1BE87

Editor: C. Srinivasulu, Osmania University, Hyderabad, India

Date of publication: 26 November 2016 (online & print)

Manuscript details: Ms # 3162 | Received 01 April 2016 | Final received 05 November 2016 | Finally accepted 07 November 2016

Citation: Sayyed, A. (2016). Faunal diversity of Satara District, Maharashtra, India. *Journal of Threatened Taxa* 8(13): 9537–9561; <http://dx.doi.org/10.11609/jott.3162.8.13.9537-9561>

Copyright: © Sayyed 2016. Creative Commons Attribution 4.0 International License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

Funding: This work was supported by Wildlife Protection and Research Society.

Conflict of Interest: The author declares no competing interests.

Author Details: Amit Sayyed is head of research department at Wildlife Protection and Research Society. He works on faunal diversity, ecology, taxonomy, distribution and evolution of Reptiles and Amphibians.

Acknowledgements: I am sincerely thankful to the following persons and Institutions for their kind support for making this data on biodiversity possible - Dr. Hemant Ghate (Retired Professor, Department of Zoology, Modern College, Pune), Dr. Anil Mahabal (Retd. Scientist, Zoological Survey of India, Pune), Dr. Neelesh Dahanukar (Indian Institute of Science Education and Research, Pune), Dr. Anand Padhye (Department of Zoology, Abasaheb Garware College, Pune), Mr. Pradeep Kumkar (Modern college of Arts, Science and Commerce, Shivajinagar, Pune), Mr. Nikhil Modak (Department of Biodiversity, Abasaheb Garware College, Karve Road, Pune), Dr. Varad Giri (National Centre For Biological Sciences, Bangalore), Dr. Manju Siliwal (Wildlife Information & Liaison Development Society, Coimbatore, Tamil Nadu), Mr. Shrikant Jadhav (Scientist, Zoological Survey of India, Pune), Mr. Anilkumar Khaire (Zoo Incharge, Akurdi, Pune), Mr. Subhash Shelke (Deputy Conservator of Forests, Satara), Mr. M.N. Pawar (Asst. Conservator of Forests, Satara), Mr. T.J. Gayakwad and Mr. K.R. Potdar (Range Forest Officers, Satara), Mr. V.S. Chorge (Round Forest Officer, Satara), Mr. S.P. Shinde, Mr. G.M. Bhosale, Mr. R. I. Inamdar, Mr. D.D. Gayakwad, Mr. P.D. Padwal, Forest Guards of Satara Dist. I am also thankful to the Principal and Science Department of L.B.S College, Satara who allowed me to use the Science Lab for my scientific work. Dr. Satish Pande, and Mr. Rajkumar Pawar, for helping me on the study of birds. Dr. Milind Bhakare for helping me on the study of butterflies, Mr. Vivek Sharma for the support; my wife Anjum Sayyed and my other family members for their moral support. I am grateful to Mr. Aman Adsul, Atul Rajmene, Pratibha Shinde, Abhijit Nale, Rohit Katke, Akshay Bhagwat, Vinay Chavan, Jitendra Patole, Nikhil Mutha and Rahul Thombre the members of Wildlife Protection and Research Society of Satara, Maharashtra for helping me in field work.



INTRODUCTION

Biodiversity means the variability among living organisms from all sources and the ecological complexes of which they are part. The enumeration of life forms helps to adapt conservation strategies (Glowka et al. 1994). With this idea an attempt was made to enumerate and update the faunal diversity in Satara District, Maharashtra State, India. Satara District forms a part of the northern Western Ghats and the Deccan Plateau biogeographical zones. Earlier studies on fauna of various national parks, wildlife sanctuaries of northern Western Ghats and Deccan Plateau, pertaining to various faunal groups including urban areas from Maharashtra and state fauna as a whole are available (Kunte 1974; Gole 1998, 2001; Jagtap 1998; Pande 2005; Anonymous 2002, 2004, 2005, 2006a,b, 2008, 2009, 2012, 2014), but there is no comprehensive account of faunal diversity of Satara District. Therefore, an attempt has been made to present the comprehensive account of some faunal diversity of Satara District.

Satara District is the western limit of the Deccan tableland and it lies between $16^{\circ}50' - 18^{\circ}10'N$ & $73^{\circ}45' - 75^{\circ}03'E$ with an area of 10,484km². The district is divided into 11 talukas, namely: Satara, Koregaon, Jawli, Wai, Mahabaleshwar, Patan, Karad, Phaltan, Khataw, Maan and Khandala. The Sahyadri range (Western Ghats) runs from north to south along the western edge of the district and Mahadev Hills (northern Western Ghats), which are off-shoots of Shyadris, run eastwards and sends several minor ranges in southeast and southward directions across the district in Deccan area (Rao 1963). Western part of the district is under Western Ghats mountain province (5B) of Western Ghats biogeographic zone, whereas, the rest of the district lies in Central Plateau Province (6D) of Deccan Plateau biogeographic zone (Pande 2005).

The entire land of the district encompasses major river systems between Sahyadri range, Mahadev Hills and its minor hill ranges. There are four river basins in the district; Yerla on south, Maan on southeast, Nira on north, whereas Krishna being the largest drainage system with many tributaries such as Kundali, Urmodi, Tarli and Koyna covers the entire land of the district. The whole of the district falls within the Deccan trap area with greater portion covered by the basaltic lava rocks, tapped with laterite. Trappean country is characterized by rich and fertile black soil. The average annual rainfall ranges from 2,000–5,500 mm and above in western region, whereas the southward and eastern parts receive the average annual rainfall between 500–

800 mm. The type of the forest is mainly based on the climatic factors particularly rainfall, temperature and altitude. Tropical semi-evergreen forest is seen on high Sahyadri ranges, moist deciduous forest on slopes of the Sahyadris and dry deciduous mixed with shrubs and grasses in the remaining parts of the district (Rao 1963).

The present study deals with the inventory of some faunal groups pertaining to Satara District, Maharashtra, India. Conservation status, endemism, distribution pattern of mammals in the district, comparison of faunal diversity between the district and the state of Maharashtra are also discussed in this communication.

STUDY AREA

The study on some faunal elements of Satara District was conducted in the following nine areas covering various habitats (Fig. 1), namely: (1) Vasota Fort ($17^{\circ}40'N$ & $73^{\circ}42'E$): it lies in the deep forested areas on the back waters of Koyna catchment in the Sahyadri ranges at a height of 1,120m; (2) Mahabaleshwar ($17^{\circ}58'N$ & $73^{\circ}43'E$): it is a vast area and a hill station located in the Sahyadris with an average elevation of 1,353m. It receives heavy rainfall and covered with semi-evergreen forest. It is bounded by steep valleys on all sides. Krishna, Koyna and other rivers originate from this place; (3) Koyna ($17^{\circ}27'N$ & $73^{\circ}50'E$): it is a wildlife sanctuary situated along the Koyna backwaters covering an area of 423.55sq.km covered mostly with dense forest; (4) Kass ($17^{\circ}45'N$ & $73^{\circ}56'E$): it is a hilly rocky plateau in Sahyadri ranges and has a perennial lake. It is a water source to Satara City, now declared as a World Heritage Site; (5) Chalkewadi ($17^{\circ}47'N$ & $73^{\circ}83'E$): it is a hilly rocky plateau. Numerous wind mills have been placed here; (6) Satara City ($17^{\circ}42'N$ & $74^{\circ}02'E$): city and a district head quarters surrounded by hills with sparse forest tracts, forts and agricultural land; (7) Patan ($17^{\circ}15'N$ & $74^{\circ}12'E$): it is located on the Karad-Kumbharli road at the junction of the Koyna and Yerla rivers and has an average elevation of 582m; (8) Phaltan ($18^{\circ}00'N$ & $74^{\circ}29'E$): it is a small town and a taluka place with agricultural fields around; and (9) Mayni ($17^{\circ}25'N$ & $74^{\circ}30'E$): it is situated in the Khataw Taluka and has a perennial lake.

METHODS

A team from the wildlife protection and research society, Satara undertook faunal studies in nine

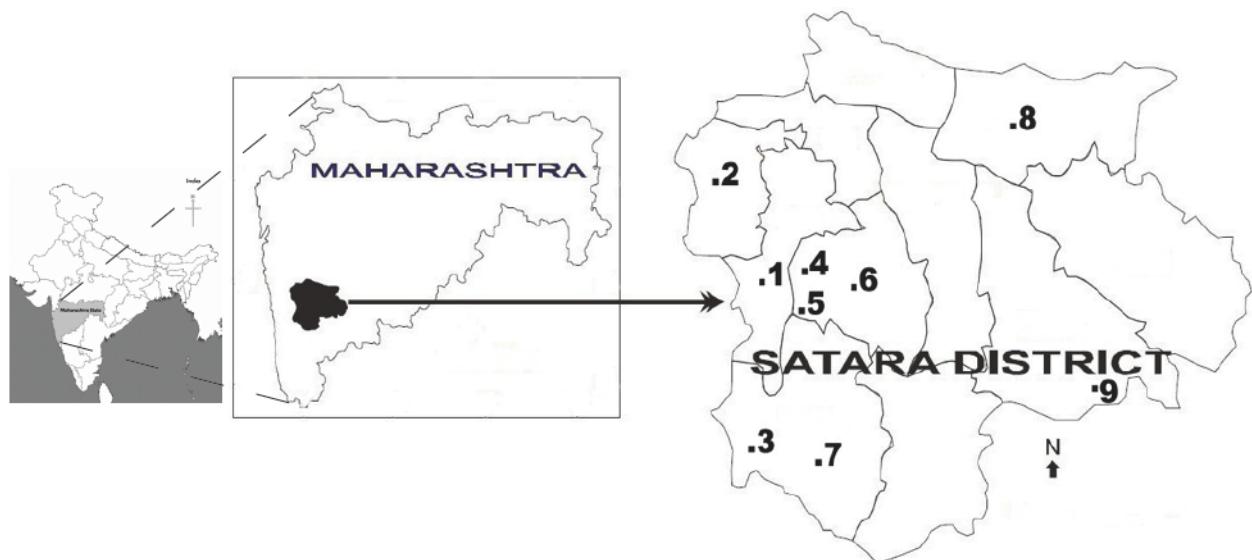


Figure 1. Study areas in Satara District, Maharashtra, India:

1 - Vasota, 2 - Mahabaleshwar, 3 - Koyna, 4 - Kass, 5 - Chalkewadi, 6 - Satara City, 7 - Patan, 8 - Phaltan, and 9 - Mayni

different areas between January 2007 and December 2010 covering summer, rainy and winter seasons. For making observations and recording the data, various equipments including digital camera, binoculars 7x10, torch lights, GPS, stereo binocular microscope (LABOMEDSM-2), vernier caliper, etc. were used in the field. Identification of various taxa was carried out by using available literature - mammals (Alfred et al. 2006), birds (Ali & Ripley 1987; Rasmussen & Anderton 2005), reptiles (Smith 1935; Tikader & Sharma 1992; Daniel 2002; Whitaker & Captain 2008), amphibians (Chanda 2002), fishes (Talwar & Jhingran 1991; Jayaram 2010), scorpions (Tikader & Bastawade 1983), butterflies (Kunte 2000; Kehimkar 2008), and for the comparison of fauna of Maharashtra with the present study the following literature was used - mammals (Pradhan & Talmale 2012a), birds (Mahabal et al. 2012), reptiles (Dasgupta et al. 2012), amphibians (Padhye & Ghate 2012), fishes (Karmakar et al. 2012), scorpions (Bastawade 2012), butterflies (Sharma 2012), dragonflies (Kulkarni et al. 2012), ants (Sheela & Chattopadhyay 2012), and centipede (Yadav 2012). Further to fortify, consulted experts and compared our study with the experts and the collections at Zoological Survey of India, WRC, Pune; Department of Zoology, Modern College and Garware College, Pune, Maharashtra. The checklists of various faunal groups, presented as Appendices 1–11, are based on personal and team-based observations. The species included in this paper is to the best of my knowledge and any species that have been left out is only due to the

reason that it was not encountered during the present study.

RESULTS AND DISCUSSION

The study resulted in the identification and enumeration of 677 species under 150 families spread over 11 faunal groups (Table 1). The table also indicates total number of Indian endemic species at a glance. Appendices 1–11 give details of total number of species recorded from each faunal group along with their order and family-wise classification, common name, endemicty status and conservation status (wherever applicable).

Further, the Fig. 2 and Fig. 3 shows the comparison between the total number of species observed in each vertebrate group and some invertebrate groups, respectively from Satara District and those already recorded from state of Maharashtra particularly the mammals (Pradhan & Talmale 2012a), birds (Mahabal et al. 2012), reptiles (Dasgupta et al. 2012), amphibians (Padhye & Ghate 2012), fishes (Karmakar et al. 2012), scorpions (Bastawade 2012), butterflies (Sharma 2012), dragonflies (Kulkarni et al. 2012), ants (Sheela and Chattopadhyay 2012) and centipedes (Yadav 2012). Figures 2 and 3 indicate that fauna such as butterflies (71.4%), reptiles (65.0%) and amphibians (50.9%) is well represented in the district followed by fishes (41.2%) and birds (37.4%). Rest of the faunal groups are poorly

Table 1. Faunal diversity of various groups of animals and percent endemicity of animals occurring in Satara District, Maharashtra, India

Class	Group	Order	Family	Species	Endemic
Mammalia	Mammal	7	18	32	4
Aves	Birds	16	60	208	25
Reptilia	Reptiles	3	15	74	25
Amphibia	Amphibians	2	9	27	3
Pisces	Fishes	8	20	89	21
Arachnida	Scorpions	1	3	11	3
	Spiders	2	15	42	9
Insecta	Butterflies	1	5	153	4
	Dragonflies	1	2	10	-
	Ants	1	1	24	-
Chilopoda	Centipede	2	2	7	-
Total 8		11	44	677	94

represented in the district as compared to the state.

Indian endemic species from vertebrate and some invertebrate groups have been plotted in Fig. 4. It indicates that endemicity of avian and reptilian species is higher than other faunal groups; this could probably be due to the fact that the western part of the Satara District falls under Western Ghats mountain province.

A comparative account of conservation status (as per IUCN Red List of Threatened Species) for all the vertebrate groups has been summarized in Table 2. It indicates that 35 species from different vertebrate groups are listed under threatened categories, like - Critically Endangered, Endangered and Vulnerable. Similarly, various species from all the vertebrate groups and butterflies included under various schedules of the Indian Wildlife (Protection) Act, 1972 (as amended upto 2013; IWPA) are listed in Table 3. It shows that a total of 23 and 15 species are listed under Schedules I and II, from various faunal groups except the amphibians and the fishes. In general, there is need to conserve and protect all these species on priority basis.

The Appendix 1, Table 2 and 3 indicates that out of 32 mammalian species recorded in the district, 21 species (65.6%) are listed under Schedule I and II of IWPA and 10 species (31.3%) are listed in threatened categories of the Red List. These species need to be conserved.

Animals like the Gray Langur *Semnopithecus hypoleucus*, Indian Hare *Lepus nigricollis*, Indian Grey Mongoose *Herpestes edwardsii* were sighted abundantly all over the district (covering both the northern Western Ghats and Deccan Plateau) followed by Wild Boar *Sus scrofa*, Asian Palm Civet *Paradoxurus hermaphroditus*

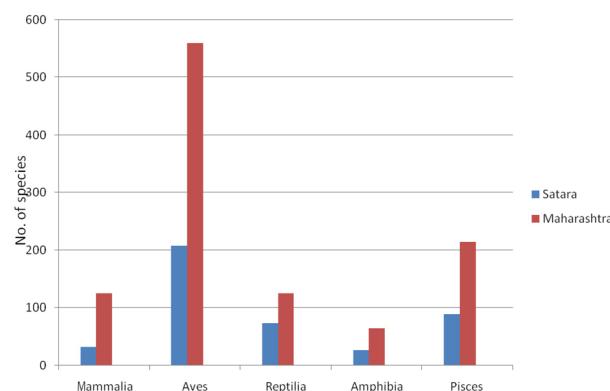


Figure 2. Comparison of total number of species recorded in each vertebrate group from Satara District and Maharashtra, India

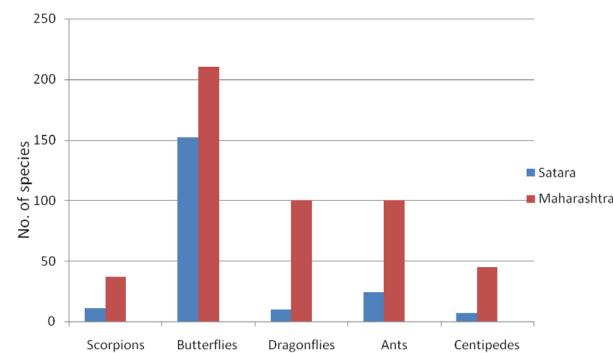


Figure 3. Comparison of total number of species recorded in some invertebrate groups from Satara District and Maharashtra, India

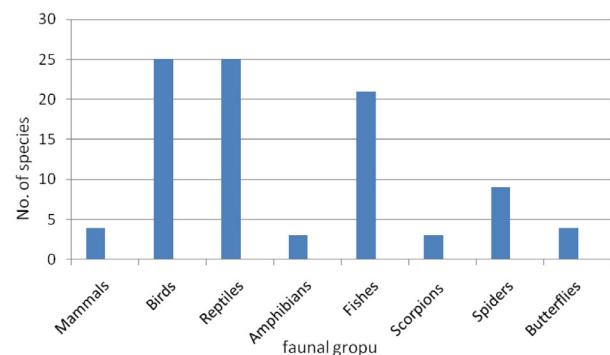


Figure 4. Endemism of vertebrates, spiders and butterflies found in Satara District, Maharashtra, India

and Indian Jackal *Canis aureus* (Table 4). Mammals like Sahayadri Forest Rat *Rattus satarae*, Sloth Bear *Melursus ursinus* and Four-horned Antelope *Tetracerus quadricornis* were more or less restricted to Western Ghats mountain province of the district. Leopard *Panthera pardus* and Jungle Cat *Felis chaus* were noticed frequently to certain extent in the Western and middle

Table 2. Conservation status (as per IUCN categories) of vertebrate groups from Satara District (as per Appendices 1 to 5)

	Conservation status (as per IUCN categories)	Number of species				
		Ma	Av	Re	Am	Pi
1	Critically Endangered (CR)	1	-	-	1	1
2	Endangered (EN)	2	-	-	2	2
3	Vulnerable (VU)	7	2	7	4	6
4	Near Threatened (NT)	3	8	-	2	7
5	Least Concern (LC)	19	196	36	15	45
6	Data Deficient (DD)	-	-	5	1	3
7	Not Evaluated (NE)	-	2	24	-	4

Ma - Mammals; Av - Aves; Re - Reptiles; Am - Amphibians; Pi - Pisces

part of the district. The Tiger *Panthera tigris tigris* was seen occasionally at Vasota Fort and Koyna area.

Endemic and threatened species, like Indian Wolf *Canis lupus pallipes*, Tiger *Panthera tigris tigris*, Sahyadri Forest Rat *Rattus satarae*, Nilgiri Wood Pigeon *Columba elphinstonii*, Leith's Softshell Turtle *Nilssonia leithii*, Humayun's Wrinkled Frog *Nyctibatrachus humayuni* and Short-legged Frog *Indiranana barchytarsus* warrants serious attention for protection and conservation.

THREATS AND CONSERVATION MEASURES

As elsewhere, the fauna of Satara District is under threat due to various anthropogenic activities like expansion of windmills, mining, removal and erosion of soil, forest fire, deforestation, uncensored tourism and construction activities in Kaas, Panchgani-Mahableshwar belt and unethical practices on wildlife. There is need of strict implementation of various conservation oriented steps for the areas to help ecosystem in recovering from such human activities and so that damage of the faunal elements can be minimized. The involvement of the locals in citizen-science will be a key to achieve conservation.

REFERENCES

- Alfred, J.R.B., A.K. Das & A.K. Sanyal (2006). *Animals of India: Mammals*. ENVIS- Zoological Survey India, Kolkata, 236pp.
- Ali, S. & S.D. Ripley (eds.) (1987). *Compact Handbook of the Birds of India and Pakistan*, 2nd Edition. Oxford University, Delhi, 73+pls.
- Bastawade, D.B. (2012). Arachnida: Scorpionida, pp. 671–673. In: Director, ZSI (eds.). *Fauna of Maharashtra, State Fauna Series 20 (Part - 2)*. Director, Zoological Survey of India, Kolkata.
- Chanda, S.K. (2002). *Hand Book of Indian Amphibians*. Zoological Survey of India, Kolkata, 335pp.

Table 3. Vertebrate groups and butterflies under various schedules of Indian Wildlife (Protection) Act, 1972, (as amended up to 2013) from Satara District (as per Appendices 1 to 5 and 8)

	IWPA Schedules	Number of species					
		Ma	Av	Re	Am	Pi	Bu
1	Schedule I Part I	10	-	-	-	-	-
2	Schedule I Part II	-	-	4	-	-	-
3	Schedule I Part III	-	4	-	-	-	-
4	Schedule I Part IV	-	-	-	-	-	5
5	Schedule II Part I	3	-	1	-	-	-
6	Schedule II Part II	8	1	2	-	-	-
7	Schedule III	4	-	-	-	-	-
8	Schedule IV	3	201	44	1	-	-
9	Schedule V	4	2	-	-	-	-

Ma - Mammals; Av - Aves; Re - Reptiles; Am - Amphibians; Pi - Pisces; Bu - Butterflies

Daniel, J.C. (2002). *The Book of Indian Reptiles and Amphibians*. Bombay Natural History Society, Oxford University Press, Mumbai, 238pp.

Dasgupta, G., B.H.C.K. Murthy & S. Raha (2012). Reptilia, pp. 189–238. In: Director, ZSI (eds.). *Fauna of Maharashtra, State fauna Series 20 (Part-1)*. Director, Zoological Survey of India, Kolkata.

Anonymous (2002). Fauna of Sanjay Gandhi National Park. Part I. Vertebrate. Conservation Area Series 12: 1–54. Zoological Survey of India, Kolkata

Anonymous (2004). Fauna of Pench National Park, Maharashtra, Conservation Area Series 20: 1–312. Zoological Survey of India, Kolkata.

Anonymous (2005). Fauna of Melghat Tiger Reserve, Maharashtra, Conservation Area Series 24: 1–500. Zoological Survey of India, Kolkata.

Anonymous (2006a). Fauna of Sanjay Gandhi National Park. Part-II. Invertebrate, Conservation Area Series 26: 1–188. Zoological Survey of India, Kolkata.

Anonymous (2006b). Fauna of Tadoba - Andhari Tiger Reserve, Maharashtra, Conservation Area Series 25: 1–309. Zoological Survey of India, Kolkata.

Anonymous (2008). Fauna of Lonar Wildlife Sanctuary, Maharashtra, Conservation Area Series, 37: 1–208. Zoological Survey of India, Kolkata.

Anonymous (2009). Fauna of Bhimashankar Wildlife Sanctuary, Maharashtra, Conservation Area Series, 42: 1–284. Zoological Survey of India, Kolkata.

Anonymous (2012). Fauna of Maharashtra, State Fauna Series, 20 (Part 1: 480) and (Part 2: 673). Zoological Survey of India, Kolkata.

Anonymous (2014). Fauna of Radhanagari Wildlife Sanctuary, Maharashtra, Conservation Area Series, 52: 1–132. Zoological Survey of India, Kolkata.

Glowka, L., F. Burhenne-Guilmin, & H. Syngue (1994). *A Guide to the Convention on Biological Diversity*. International Union for Conservation of Nature and Natural Resources (IUCN), Gland, Switzerland, and Cambridge, UK, xii+161pp.

Gole, P. (1998). The Sahyadri special.Birds, Snakes, Mammals, Turtles, Lizards and Rare and Endemic Plants of the Sahyadri. *Journal of Ecological Society* 11: 1–47.

Gole, P. (2001). Bio-diversity profile of an Urban area. Special double

Table 4. Distribution of mammals in Satara District

Taxa	VF	MB	KO	KA	CH	SA	PA	PH	MA
Order: Primates									
1) <i>Semnopithecus hypoleucus</i> Gray Langur	++	++	++	++	++	++	++	++	++
2) <i>Macaca radiata</i> Bonnet Macaque	++	++	++	+	+	++	+	+	+
Order: Rodentia	++	++	++	++	++	+	+	+	+
3) <i>Hystrix indica</i> Indian Porcupine									
4) <i>Ratufa indica</i> Indian Giant Squirrel	+	+	+	-	-	-	-	-	-
5) <i>Funambulus pennantii</i> Five Striped Palm Squirrel	+	+	+	+	+	+	+	+	+
6) <i>Rattus satarae</i> Sahyadri Forest Rat	+	+	++	++	+	-	-	-	-
7) <i>Bandicota bengalensis</i> Lesser Bandicoot Rat	+	+	+	+	+	+	+	+	+
Order: Lagomorpha									
8) <i>Lepus nigricollis</i> Indian Hare	++	++	++	++	++	++	++	++	++
Order: Chiroptera									
9) <i>Pteropus giganteus</i> Indian Flying Fox	+	+	+	+	+	+	+	+	+
10) <i>Cynopterus sphinx</i> Greater Short-nosed Fruit Bat	+	+	+	+	+	+	+	+	+
Order: Pholidota									
11) <i>Manis crassicaudata</i> Indian Pangolin	+	+	++	+	-	-	-	+	-
Order: Carnivora									
12) <i>Panthera tigris</i> Tiger	+	-	++	-	-	-	-	-	-
13) <i>Panthera pardus</i> Leopard	++	++	++	++	++	+	++	-	-
14) <i>Prionailurus rubiginosus</i> Rusty-spotted Cat	++	+	++	-	-	-	-	-	-
15) <i>Felis chaus</i> Jungle Cat	++	++	++	+	+	+	+	-	+
16) <i>Prionailurus bengalensis</i> Leopard Cat	+	+	+	-	-	-	-	-	-
17) <i>Hyaena hyaena</i> Striped Hyena	-	+	+	-	+	++	+	+	+
18) <i>Melursus ursinus</i> Sloth Bear	++	++	++	++	++	-	-	-	-
19) <i>Cuon alpinus</i> Dhole	+	+	++	-	-	-	-	-	-
20) <i>Canis lupus pallipes</i> Indian Wolf	-	+	+	-	-	+	-	+	+
21) <i>Canis aureus</i> Indian Jackal	++	++	++	++	+	++	++	+	+
22) <i>Vulpes bengalensis</i> Indian Fox	++	++	++	++	++	+	+	+	+
23) <i>Paradoxurus hermaphroditus</i> Asian Palm Civet	++	++	++	++	++	++	+	+	++
24) <i>Viverricula indica</i> Small Indian Civet	++	++	++	++	+	+	-	-	-
25) <i>Herpestes edwardsii</i> Indian Grey Mongoose	++	++	++	++	++	++	++	++	++
26) <i>Lutrogale perspicillata</i> Smooth-coated Otter	-	-	+	-	-	-	-	-	-
Order: Artiodactyla									
27) <i>Sus scrofa</i> Wild Boar	++	++	++	++	++	++	++	+	+
28) <i>Moschiola indica</i> Indian Mouse Deer	+	+	+	+	-	-	-	-	-
29) <i>Muntiacus muntjak</i> Common Muntjac	++	++	++	++	++	+	+	+	+
30) <i>Rusa unicolor</i> Sambar	++	+	++	-	-	-	+	-	-
31) <i>Tetracerus quadricornis</i> Four-horned Antelope	++	++	++	++	+	-	-	-	-
32) <i>Bos gaurus</i> Gaur	++	++	++	++	+	-	+	-	-

Key: - = Not Observed, + = 1-5 sightings during the study, ++ = 5-10 sightings during the study.

Localities surveyed: VF = Vasota Fort, MB = Mahabaleshwar, KO = Koyna, KA = Kaas, CH = Chalkewadi, SA = Satara, PA = Patan, PH = Phaltan, and MA = Mayni.

- issue. *Journal of Ecological Society* 13/14: 1–80.
- IUCN (2014).** The IUCN Red List of Threatened Species. Version 2014.2. <www.iucnredlist.org>. Downloaded on 21 August 2014.
- Jagtap, A.P. (1998).** *Biodiversity of the Western Ghats Maharashtra*. WWF for Nature India, BHPC, Pune, 287pp.
- Jayaram, K.C. (2010).** *Freshwater Fishes of the Indian Region*. Narendra Publishing House, New Delhi, 616pp.
- Karmakar, A.K., B.E. Yadav, N. Bairagi, A. Das, P.K. Banerjee & S.S. Jadhav (2012).** Freshwater fishes, pp. 247–367. In: Anonymous (ed.). *Fauna of Maharashtra State Fauna Series 20 (Part-1)*. Zoological Survey of India, Kolkata.
- Kehimkar, I. (2008).** *The Book of Indian Butterflies*. Bombay Natural History Society Oxford University Press, Mumbai, 497pp.
- Kulkarni, P.P., R. Babu, S.S. Talmale, C. Sinha & S.B. Mondal (2012).** Insecta: Odonata, pp. 397–428. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part-2)*. Zoological Survey of India, Kolkata.
- Kunte, B.G. (ed.) (1974).** Gazetteer of India. Maharashtra State Gazetteers. General Series: Fauna. The Director, Govt. Printing, Stationary and Publications, Maharashtra State, Bombay, 432pp.
- Kunte, K. (2000).** *Butterflies of Peninsular India*. University Press, Hyderabad, 254pp.
- Mahabal, A., S. Pande, P. Pandit & A. Ponkshe (2012).** Aves, pp. 147–188. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part- 1)*. Director, Zoological Survey of India, Kolkata.
- Padhye, A.D. & H.V. Ghate (2012).** Amphibia, pp. 239–246. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part- 1)*. Director, Zoological Survey of India, Kolkata.
- Pande, P. (2005).** National Parks and Sanctuaries in Maharashtra. Reference Guide Vol. 1(A State Profile), 212pp and Vol. 2 (Individual Profile and Management Status). Bombay Natural History Society, Mumbai, 531pp.
- Pradhan, M.S. & S.S. Talmale (2012a).** *Indian Mammals: Checklist with Comments on Type Locality, Distribution, Conservation Status and Taxonomy*. Nature Books India, Kolkata, 488pp.
- Pradhan, M.S. & S.S. Talmale (2012b).** Mammalia, pp. 21–145. In: Director, ZSI (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part- 1)*. Director, Zoological Survey of India, Kolkata.
- Rao, P.S.M. (ed.) (1963).** *Satara District Gazetteer (Revised Edition)*. Maharashtra State Gazetteer. Govt. of Maharashtra, Bombay, 1128pp.
- Rasmussen, P.C. & J.C. Anderton (2005).** *Birds of South Asia. The Ripley Guide Vol. 1 and 2*. Smithsonian Institute and Lynx Edicion, Washington D.C. and Barcelona, 683pp.
- Sharma, R.M. (2012).** Insecta: Lepidoptera: Rhopalocera and Grypocera, pp. 551–562. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part-2)*. Director, Zoological Survey of India, Kolkata.
- Sheela, S. & A. Chattopadhyay (2012).** Insecta: Hymenoptera: Vespoidea: Formicidae, pp. 567–586. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part-2)*. Zoological Survey of India, Kolkata.
- Smith, M.A. (1935).** *The Fauna of British India including Ceylon and Burma: Reptilia and Amphibia. Volume II. Sauria*. Taylor and Francis, London, 440pp.
- Talwar P.K. & A.G. Jhingran (1991).** *Inland Fishes of India and Adjacent Countries. Vols I & II*. Oxford & IBH Publishing Co. Pvt. Ltd, 1158pp.
- Tikader, B.K. & D.B. Bastawade (1983).** *Fauna of India, Scorpionida - Volume 3*. Zoological Survey of India, Kolkata, 671pp.
- Tikader, B.K. & R.C. Sharma (1992).** *Handbook of Indian Lizards*. Zoological Survey of India, Kolkata, xv+250pp+42pls.
- Whitaker, R. & A. Captain (2008).** *Snakes of India. The Field Guide*. Draco Books, Chennai, India, xiv+385pp.
- Yadav, B.E. (2012).** Chilopoda: Scolopendromorpha: Scolopendridae, pp. 637–659. In: Anonymous (ed.). *Fauna of Maharashtra, State Fauna Series 20 (Part-2)*. Zoological Survey of India, Kolkata.

Appendix 1. Check list of Mammals of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterisk.

Order	Family	Species name	Common name	Red List	IWPA
1) Primates	1) Cercopithecidae	1) * <i>Semnopithecus hypoleucus</i> Blyth, 1841	Gray Langur	LC	Sch II Part I
		2) * <i>Macaca radiata</i> (É. Geoffroy, 1812)	Bonnet Macaque	LC	Sch II Part I
2) Rodentia	2) Hystricidae	3) <i>Hystrix indica</i> Kerr, 1792	Indian Porcupine	LC	Sch IV
	3) Sciuridae	4) * <i>Ratufa indica</i> (Erxleben, 1777)	Indian Giant Squirrel	LC	Sch II Part II
		5) <i>Funambulus pennanti</i> Wroughton, 1905	Five Striped Palm Squirrel	LC	Sch IV
	4) Muridae	6) * <i>Rattus satarae</i> Hinton, 1918	Sahyadri Forest Rat	VU	Sch V
		7) <i>Bandicota bengalensis</i> Gray, 1835	Lesser Bandicoot Rat	LC	Sch V
3) Lagomorpha	5) Leporidae	8) <i>Lepus nigricollis</i> F. Cuvier, 1823	Indian Hare	LC	Sch IV
4) Chiroptera	6) Pteropodidae	9) <i>Pteropus giganteus</i> (Brunnich, 1782)	Indian Flying Fox	LC	Sch V
		10) <i>Cynopterus sphinx</i> (Vahl, 1797)	Greater Short-nosed Fruit Bat	LC	Sch V
5) Pholidota	7) Manidae	11) <i>Manis crassicaudata</i> E. Geoffroy, 1803	Indian Pangolin	NT	Sch I Part I
6) Carnivora	8) Felidae	12) <i>Panthera tigris tigris</i> (Linnaeus, 1758)	Tiger	EN	Sch I Part I
		13) <i>Panthera pardus</i> (Linnaeus, 1758)	Leopard	NT	Sch I Part I
		14) <i>Prionailurus rubiginosus</i> (Geoffroy Saint-Hilaire, 1831)	Rusty-spotted Cat	VU	Sch I Part I
		15) <i>Felis chaus</i> Schreber, 1777	Jungle Cat	LC	Sch II Part II
		16) <i>Prionailurus bengalensis</i> (Kerr, 1792)	Leopard Cat	LC	Sch I Part I
	9) Hyaenidae	17) <i>Hyaena hyaena</i> (Linnaeus, 1758)	Striped Hyena	NT	Sch III
	10) Ursidae	18) <i>Melursus ursinus</i> (Shaw, 1791)	Sloth Bear	VU	Sch I Part I
	11) Canidae	19) <i>Cuon alpinus</i> (Pallas, 1811)	Dhole	EN	Sch II Part I
		20) <i>Canis lupus pallipes</i> Sykes, 1831	Indian Wolf	CR	Sch I Part I
		21) <i>Canis aureus</i> Linnaeus, 1758	Indian Jackal	LC	Sch II Part II
		22) <i>Vulpes bengalensis</i> (Shaw, 1800)	Indian Fox	LC	Sch II Part II
	12) Viverridae	23) <i>Paradoxurus hermaphroditus</i> (Pallas, 1777)	Asian Palm Civet	LC	Sch II Part II
		24) <i>Viverricula indica</i> (Geoffroy Saint-Hilaire, 1803)	Small Indian Civet	LC	Sch II Part II
	13) Herpestidae	25) <i>Herpestes edwardsii</i> (Geoffroy Saint Hilaire, 1818)	Indian Grey Mongoose	LC	Sch II Part II
	14) Mustelidae	26) <i>Lutrogale perspicillata</i> (Geoffroy Saint Hilaire, 1826)	Smooth-coated Otter	VU	Sch II Part II
7) Artiodactyla	15) Suidae	27) <i>Sus scrofa</i> Linnaeus, 1758	Wild Boar	LC	Sch III
	16) Tragulidae	28) <i>Moschiola indica</i> (Gray, 1852)	Indian Mouse Deer	LC	Sch I Part I
	17) Cervidae	29) <i>Muntiacus muntjak</i> (Zimmermann, 1780)	Common Muntjac	LC	Sch III
		30) <i>Rusa unicolor</i> (Kerr, 1792)	Sambar	VU	Sch III
	18) Bovidae	31) <i>Tetracerus quadricornis</i> (Blainville, 1816)	Four-horned Antelope	VU	Sch I Part I
		32) <i>Bos gaurus</i> Smith, 1827	Gaur	VU	Sch I Part I

Appendix 2. Check list of Birds of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterisk.

Order	Family	Species name	Common name	Red List	IWPA
1) Pelecaniformes	1) Phalacrocoracidae	1) <i>Phalacrocorax fuscicollis</i> Stephens, 1826	Indian Shag	LC	Sch IV
		2) <i>Phalacrocorax niger</i> (Vieillot, 1817)	Little Cormorant	LC	Sch IV
	2) Anhingidae	3) <i>Anhinga melanogaster</i> Pennant, 1769	Oriental Darter	NT	Sch IV
2) Ciconiiformes	3) Ardeidae	4) <i>Bubulcus coromandus</i> (Boddaert, 1783)	Western Cattle Egret	LC	Sch IV
		5) <i>Egretta garzett</i> (Linnaeus, 1766)	Little Egret	LC	Sch IV
		6) <i>Egretta alba</i> (Linnaeus, 1758)	Great Egret	LC	Sch IV
		7) <i>Egretta intermedia</i> (Wagler, 1827)	Intermediate Egret	LC	Sch IV
		8) <i>Egretta gularis</i> (Bosc, 1792)	Western Reef Heron	LC	Sch IV
		9) <i>Ardea cinerea</i> Linnaeus, 1758	Grey Heron	LC	Sch IV
		10) <i>Ardeola grayii</i> (Sykes, 1832)	Indian Pond Heron	LC	Sch IV
		11) <i>Ardea purpurea</i> Linnaeus, 1766	Purple Heron	LC	Sch IV
	4) Ciconiidae	12) <i>Anastomus oscitans</i> (Boddaert, 1783)	Asian Openbill	LC	Sch IV
		13) <i>Mycteria leucocephala</i> (Pennant, 1769)	Painted Stork	NT	Sch IV
		14) <i>Ciconia episcopus</i> (Boddaert, 1783)	White-necked Stork	LC	Sch IV
	5) Threskiornithidae	15) <i>Threskiornis melanocephalus</i> (Latham, 1790)	Black-headed Ibis	NT	Sch IV
		16) <i>Plegadis falcinellus</i> (Linnaeus, 1766)	Glossy Ibis	LC	Sch IV
		17) * <i>Pseudibis papillosa</i> (Temminck, 1824)	Indian Black Ibis	LC	Sch IV
		18) <i>Platalea leucorodia</i> Linnaeus, 1758	Eurasian Spoonbill	LC	Sch IV
3) Anseriformes	6) Anatidae	19) <i>Anas crecca</i> Linnaeus, 1758	Common Teal	LC	Sch IV
		20) <i>Anas poecilorhyncha</i> Forster, 1781	Indian Spot Billed Duck	LC	Sch IV
		21) <i>Tadorna ferruginea</i> (Pallas, 1764)	Ruddy Shelduck	LC	Sch IV
4) Falconiformes	7) Accipitridae	22) <i>Aquila rapax</i> (Temminck, 1828)	Tawny Eagle	LC	Sch IV
		23) <i>Hieraetus pennatus</i> (Gmelin, 1788)	Booted Eagle	LC	Sch IV
		24) * <i>Nisaetus cirrhatus</i> (Gmelin, 1788)	Crested Hawk-Eagle	LC	Sch IV
		25) <i>Spilornis cheela</i> (Latham, 1790)	Crested Serpent Eagle	LC	Sch IV
		26) <i>Aquila heliacal</i> Savigny, 1809	Eastern Imperial Eagle	VU	Sch IV
		27) <i>Hieraetus fasciatus</i> (Vieillot, 1822)	Bonelli's Eagle	LC	Sch IV
		28) <i>Aquila nipalensis</i> Hodgson, 1833	Steppe Eagle	LC	Sch IV
		29) <i>Milvus migrans</i> (Boddaert, 1783)	Black Kite	LC	Sch IV
		30) <i>Milvus lineatus</i> (Gray, 1831)	Black Eared Kite	LC	Sch IV
		31) <i>Elanus caeruleus</i> (Desfontaines, 1789)	Black Winged Kite	LC	Sch IV
		32) <i>Haliastur indus</i> (Boddaert, 1783)	Brahminy Kite	LC LC	Sch IV
		33) <i>Buteo buteo</i> (Linnaeus, 1758)	Common Buzzard	LC LC	Sch IV
		34) <i>Accipiter trivirgatus</i> (Temminck, 1824)	Crested Goshawk	LC LC	Sch IV
		35) <i>Circus cyaneus</i> (Linnaeus, 1766)	Hen Harrier	LC LC	Sch IV
		36) <i>Accipiter badius</i> (Gmelin, 1788)	Shikra	LC	Sch IV
		37) <i>Accipiter nisus</i> (Linnaeus, 1758)	Eurasian Sparrowhawk	LC	Sch IV
	8) Pandionidae	38) <i>Pandion haliaetus</i> (Linnaeus, 1758)	Osprey	LC	Sch I partIII
	9) Falconidae	39) <i>Falco tinnunculus</i> Linnaeus, 1758	Common Kestrel	LC	Sch IV
		40) <i>Falco chicquera</i> Daudin, 1800	Red-headed Falcon	LC	Sch I partIII
		41) <i>Falco subbuteo</i> Linnaeus, 1758	Eurasian Hobby	LC	Sch IV
		42) <i>Falco jugger</i> J.E. Gray, 1834	Laggar Falcon	NT	Sch IV

Order	Family	Species name	Common name	Red List	IWPA
		43) <i>Falco peregrinus</i> Tunstall, 1771	Peregrine Falcon	LC	Sch I partIII
5) Galliformes	10) Phasianidae	44) * <i>Pavo cristatus</i> Linnaeus, 1758	Indian Peafowl	LC	Sch I partIII
		45) <i>Gallus gallus</i> (Linnaeus, 1758)	Red Junglefowl	LC	Sch IV
		46) * <i>Gallus sonneratii</i> Temminck, 1813	Grey Junglefowl	LC	Sch II Part II
		47) * <i>Francolinus pondicerianus</i> (Gmelin, 1789)	Grey Francolin	LC	Sch IV
		48) * <i>Francolinus pictus</i> (Jardine & Selby, 1828)	Painted Francolin	LC	Sch IV
		49) <i>Coturnix coromandelica</i> (Gmelin, 1789)	Rain Quail	LC	Sch IV
		50) <i>Coturnix coturnix</i> (Linnaeus, 1758)	Common Quail	LC	Sch IV
		51) <i>Perdicula asiatica</i> (Latham, 1790)	Jungle Bush Quail	LC	Sch IV
		52) <i>Perdicula argoondah</i> (Sykes, 1832)	Rock Bush Quail	LC	Sch IV
		53) <i>Perdicula erythrorhyncha</i> (Sykes, 1832)	Painted Bush Quail	LC	Sch IV
		54) * <i>Galloperdix spadicea</i> (Gmelin, 1789)	Red Spurfowl	LC	Sch IV
6) Gruiformes	11) Rallidae	55) <i>Amaurornis phoenicurus</i> (Pennant, 1769)	White Breasted Waterhen	LC	Sch IV
		56) <i>Porphyrio poliocephalus</i> (Linnaeus, 1758)	Purple Swamphen	LC	Sch IV
		57) <i>Fulica atra</i> Linnaeus, 1758	Eurasian Coot	LC	Sch IV
7) Charadriiformes	12) Jacanidae	58) <i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	Pheasant-tailed Jacana	LC	Sch IV
		59) <i>Metopidius indicus</i> (Latham, 1790)	Bronze-winged Jacana	LC	Sch IV
	13) Charadriidae	60) * <i>Vanellus malabaricus</i> (Boddaert, 1783)	Yellow-wattled Lapwing	LC	Sch IV
		61) <i>Vanellus indicus</i> (Boddaert, 1783)	Red-wattled Lapwing	LC	Sch IV
		62) <i>Charadrius alexandrinus</i> Linnaeus, 1758	Kentish Plover	LC	Sch IV
		63) <i>Charadrius dubius</i> Scopoli, 1786	Little Ringed Plover	LC	Sch IV
	14) Recurvirostridae	64) <i>Himantopus himantopus</i> (Linnaeus, 1758)	Black-winged Stilt	LC	Sch IV
	15) Scolopacidae	65) <i>Limosa limosa</i> (Linnaeus, 1758)	Western Black-tailed Godwit	NT	Sch IV
		66) <i>Tringa glareola</i> (Linnaeus, 1758)	Wood Sandpiper	LC	Sch IV
		67) <i>Tringa stagnatilis</i> (Bechstein, 1803)	Marsh Sandpiper	LC	Sch IV
		68) <i>Calidris minuta</i> (Leisler, 1812)	Little Stint	LC	Sch IV
		69) <i>Actitis hypoleucos</i> (Linnaeus, 1758)	Common Sandpiper	LC	Sch IV
	16) Glareolidae	70) * <i>Cursorius coromandelicus</i> (Gmelin, 1789)	Indian Courser	LC	Sch IV
	17) Laridae	71) <i>Larus ridibundus</i> Linnaeus, 1766	Common Black-headed Gull	LC	Sch IV
	18) Sternidae	72) <i>Sterna aurantia</i> Gray, 1831	River Tern	NT	Sch IV
		73) <i>Sterna albifrons</i> Pallas, 1764	Little Tern	LC	Sch IV
8) Columbiformes	19) Columbidae	74) <i>Columba livia</i> Gmelin, 1789	Rock Pigeon	LC	Sch IV
		75) <i>Treron phoenicopterus</i> (Latham, 1790)	Yellow-footed Green Pigeon	LC	Sch IV
		76) * <i>Columba elphinstonii</i> (Sykes, 1832)	Nilgiri Wood Pigeon	VU	Sch IV
		77) <i>Streptopelia chinensis</i> (Scopoli, 1768)	Spotted Dove	LC	Sch IV
		78) <i>Streptopelia orientalis</i> (Latham, 1790)	Oriental Turtle Dove	LC	Sch IV
		79) <i>Streptopelia senegalensis</i> (Linnaeus, 1766)	Little Brown Dove	LC	Sch IV
		80) <i>Chalcophaps indica</i> (Linnaeus, 1758)	Indian Emerald Dove	LC	Sch IV
9) Psittaciformes	20) Psittacidae	81) <i>Psittacula krameri</i> (Scopoli, 1769)	Rose-ringed Parakeet	LC	Sch IV
		82) <i>Psittacula eupatria</i> (Linnaeus, 1766)	Alexandrine Parakeet	LC	Sch IV
		83) * <i>Psittacula columboides</i> (Vigors, 1830)	Malabar Parakeet	LC	Sch IV

Order	Family	Species name	Common name	Red List	IWPA
		84) <i>Psittacula cyanocephala</i> (Linnaeus, 1766)	Plum-headed Parakeet	LC	Sch IV
		85) <i>Loriculus vernalis</i> (Sparrman, 1787)	Vernal Hanging Parrot	LC	Sch IV
10) Cuculiformes	21) Cuculidae	86) <i>Clamator jacobinus</i> (Boddaert, 1783)	Jacobin Cuckoo	LC	Sch IV
		87) * <i>Cacomantis passerinus</i> (Vahl, 1797)	Grey-bellied Cuckoo	LC	Sch IV
		88) <i>Cacomantis sonneratii</i> (Latham, 1790)	Banded Bay Cuckoo	LC	Sch IV
		89) <i>Cuculus canorus</i> Linnaeus, 1758	Common Cuckoo	LC	Sch IV
		90) <i>Surniculus lugubris</i> (Horsfield, 1821)	Square-tailed Drongo-Cuckoo	LC	Sch IV
		91) <i>Centropus sinensis</i> (Stephens, 1815)	Crow Pheasant	LC	Sch IV
		92) <i>Eudynamys scolopaceus</i> (Linnaeus, 1758)	Asian Koel	LC	Sch IV
11) Strigiformes	22) Tytonidae	93) <i>Tyto alba</i> (Scopoli, 1769)	Common Barn Owl	LC	Sch IV
	23) Strigidae	94) * <i>Bubo bengalensis</i> (Franklin, 1831)	Indian Eagle Owl	LC	Sch IV
		95) <i>Ketupa zeylonensis</i> (Gmelin, 1788)	Brown Fish Owl	LC	Sch IV
		96) <i>Otus bakkamoena</i> Pennant, 1769	Indian Scops Owl	LC	Sch IV
		97) * <i>Otus scops</i> (Linnaeus, 1758)	Eurasian Scops Owl	LC	Sch IV
		98) * <i>Strix ocellata</i> (Lesson, 1839)	Mottled Wood Owl	LC	Sch IV
		99) <i>Glaucidium radiatum</i> (Tickell, 1833)	Jungle Owlet	LC	Sch IV
		100) <i>Athene brama</i> (Temminck, 1821)	Spotted Owlet	LC	Sch IV
12) Caprimulgiformes	24) Caprimulgidae	101) <i>Caprimulgus asiaticus</i> Latham, 1790	Indian Nightjar	LC	Sch IV
13) Apodiformes	25) Apodidae	102) <i>Apus affinis</i> (Gray, 1830)	Little Swift	LC	Sch IV
		103) <i>Cypsiurus balasiensis</i> (Gray, 1829)	Asian Palm Swift	LC	Sch IV
14) Coraciiformes	26) Alcedinidae	104) <i>Halcyon smyrnensis</i> (Linnaeus, 1758)	White-throated Kingfisher	LC	Sch IV
		105) <i>Ceryle rudis</i> (Linnaeus, 1758)	Lesser Pied Kingfisher	LC	Sch IV
		106) <i>Alcedo atthis</i> (Linnaeus, 1758)	Common Kingfisher	LC	Sch IV
	27) Meropidae	107) <i>Merops orientalis</i> Latham, 1802	Little Green Bee-eater	LC	Sch IV
	28) Coraciidae	108) <i>Coracias benghalensis</i> (Linnaeus, 1758)	Indian Roller	LC	Sch IV
	29) Upupidae	109) <i>Upupa epops</i> Linnaeus, 1758	Common Hoopoe	LC	Sch IV
15) Piciformes	30) Bucerotidae	110) <i>Buceros bicornis</i> Linnaeus, 1758	Great Pied Hornbill	NT	Sch IV
		111) * <i>Ocyceros birostris</i> (Scopoli, 1786)	Indian Grey Hornbill	LC	Sch IV
	31) Capitonidae	112) <i>Megalaima haemacephala</i> (S. Muller, 1776)	Coppersmith Barbet	LC	Sch IV
		113) <i>Psilopogon zeylanicus</i> (Gmelin, 1788)	Brown Headed Barbet	LC	Sch IV
	32) Picidae	114) <i>Leiopicus mahrattensis</i> (Latham, 1801)	Yellow-crowned Woodpecker	LC	Sch IV
		115) <i>Yungipicus nanus</i> (Vigors, 1832)	Indian Pygmy Woodpecker	LC	Sch IV
		116) * <i>Dinopium benghalense</i> (Linnaeus, 1758)	Black-rumped Flameback	LC	Sch IV
16) Passeriformes	33) Pittidae	117) * <i>Pitta brachyura</i> (Linnaeus, 1766)	Indian Pitta	LC	Sch IV
	34) Alaudidae	118) <i>Galerida deva</i> (Sykes, 1832)	Sykes' Lark	LC	Sch IV
		119) <i>Mirafra erythroptera</i> Blyth, 1845	Indian Bush Lark	LC	Sch IV
		120) <i>Eremopterix griseus</i> (Scopoli, 1786)	Ashy-crowned Finch-Lark	LC	Sch IV
		121) * <i>Galerida malabarica</i> (Scopoli, 1786)	Malabar Lark	LC	Sch IV
		122) <i>Calandrella brachydactyla</i> (Leisler, 1814)	Greater Short-toed Lark	LC	Sch IV
		123) <i>Alauda gulgula</i> Franklin, 1831	Oriental Skylark	LC	Sch IV
	35) Hirundinidae	124) <i>Ptyonoprogne concolor</i> (Sykes, 1832)	Dusky Crag Martin	LC	Sch IV

Order	Family	Species name	Common name	Red List	IWPA
		125) <i>Hirundo daurica</i> Laxmann, 1769	Red-rumped Swallow	LC	Sch IV
		126) <i>Hirundo smithii</i> Leach, 1818	Wire-tailed Swallow	LC	Sch IV
		127) <i>Hirundo fluvicola</i> Blyth, 1855	Streak-throated Swallow	LC	Sch IV
	36) Motacillidae	128) <i>Motacilla maderaspatensis</i> Gmelin, 1789	White-browed Wagtail	LC	Sch IV
		129) <i>Motacilla flava</i> Linnaeus, 1758	Western Yellow Wagtail	LC	Sch IV
		130) <i>Motacilla alba</i> Linnaeus, 1758	White Wagtail	LC	Sch IV
		131) <i>Anthus trivialis</i> (Linnaeus, 1758)	Tree Pipit	LC	Sch IV
		132) <i>Anthus rufulus</i> Vieillot, 1818	Paddyfield Pipit	LC	Sch IV
		133) <i>Anthus similis</i> (Jerdon, 1840)	Long-billed Pipit	LC	Sch IV
	37) Campephagidae	134) <i>Pericrocotus flammeus</i> (J.R. Forster, 1781)	Orange Minivet	LC	Sch IV
		135) <i>Pericrocotus erythropygius</i> (Jerdon, 1840)	White-bellied Minivet	LC	Sch IV
		136) <i>Pericrocotus cinnamomeus</i> (Linnaeus, 1766)	Small Minivet	LC	Sch IV
		137) <i>Coracina melanoptera</i> (Ruppell, 1839)	Black-headed Cuckooshrike	LC	Sch IV
		138) <i>Hemipus picatus</i> (Sykes, 1832)	Pied Flycatcher-Shrike	LC	Sch IV
		139) <i>Coracina macei</i> (Lesson, 1830)	Large Cuckooshrike	LC	Sch IV
	38) Monarchidae	140) <i>Terpsiphone paradisi</i> (Linnaeus, 1758)	Asian Paradise Flycatcher	LC	Sch IV
		141) <i>Hypothymis azurea</i> (Boddaert, 1783)	Black-naped Blue Monarch	LC	Sch IV
	39) Rhipiduridae	142) <i>Rhipidura albogularis</i> (Lesson, 1831)	White-spotted Fantail	NE	Sch IV
		143) <i>Rhipidura aureola</i> Lesson, 1830	White-browed Fantail	LC	Sch IV
	40) Pycnonotidae	144) <i>Pycnonotus jocosus</i> (Linnaeus, 1758)	Red-whiskered Bulbul	LC	Sch IV
		145) <i>Pycnonotus cafer</i> (Linnaeus, 1766)	Red-vented Bulbul	LC	Sch IV
		146) <i>Pycnonotus luteolus</i> (Lesson, 1841)	White-browed Bulbul	LC	Sch IV
		147) <i>Iole indica</i> (Jerdon, 1839)	Yellow-browed Bulbul	LC	Sch IV
		148) * <i>Hypsipetes ganeesa</i> Sykes, 1832	Square-tailed Bulbul	NE	Sch IV
	41) Aegithinidae	149) <i>Aegithina tiphia</i> (Linnaeus, 1758)	Common Iora	LC	Sch IV
	42) Chloropseidae	150) <i>Chloropsis cochinchinensis</i> (Gmelin, 1789)	Blue-winged Leafbird	LC	Sch IV
		151) <i>Chloropsis aurifrons</i> (Temminck, 1829)	Gold-fronted Leafbird	LC	Sch IV
	43) Irenidae	152) <i>Irena puella</i> (Latham, 1790)	Asian Fairy Bluebird	LC	Sch IV
	44) Laniidae	153) <i>Lanius excubitor</i> Linnaeus, 1758	Great Grey Shrike	LC	Sch IV
		154) <i>Lanius schach</i> Linnaeus, 1758	Long-tailed Shrike	LC	Sch IV
		155) <i>Lanius vittatus</i> Valenciennes, 1826	Bay-backed Shrike	LC	Sch IV
		156) <i>Tephrodornis pondicerianus</i> (Gmelin, 1789)	Common Woodshrike	LC	Sch IV
	45) Turdidae	157) <i>Zoothera citrina</i> (Latham, 1790)	Orange-headed Thrush	LC	Sch IV
		158) <i>Myophonus horsfieldii</i> Vigors, 1831	Malabar Whistling Thrush	LC	Sch IV
		159) <i>Turdus merula</i> Linnaeus, 1758	Common Blackbird	LC	Sch IV
	46) Muscicapidae	160) <i>Cyornis tickelliae</i> Blyth, 1843	Tickell's Blue Flycatcher	LC	Sch IV
		161) * <i>Cyornis pallipes</i> (Jerdon, 1840)	White-bellied Blue Flycatcher	LC	Sch IV
		162) <i>Culicicapa ceylonensis</i> (Swainson, 1820)	Grey-headed Canary Flycatcher	LC	Sch IV
		163) <i>Eumyias thalassinus</i> (Swainson, 1838)	Verditer Flycatcher	LC	Sch IV
		164) <i>Monticola cinclorhynchus</i> (Vigors, 1832)	Blue-capped Rock Thrush	LC	Sch IV
		165) <i>Luscinia brunnea</i> (Hodgson, 1837)	Indian Blue Robin	LC	Sch IV
		166) <i>Luscinia svecica</i> (Linnaeus, 1758)	Bluethroat	LC	Sch IV

Order	Family	Species name	Common name	Red List	IWPA
		167) <i>Copsychus malabaricus</i> (Scopoli, 1788)	White-rumped Shama	LC	Sch IV
		168) <i>Monticola solitarius</i> (Linnaeus, 1758)	Blue Rock Thrush	LC	Sch IV
		169) <i>Saxicoloides fulicata</i> (Linnaeus, 1766)	Indian Black Robin	LC	Sch IV
		170) <i>Copsychus saularis</i> (Linnaeus, 1758)	Oriental Magpie-Robin	LC	Sch IV
		171) <i>Saxicola caprata</i> (Linnaeus, 1766)	Pied Bushchat	LC	Sch IV
		172) <i>Saxicola torquatus</i> (Linnaeus, 1766)	Common Stonechat	LC	Sch IV
47) Timaliidae		173) <i>Turdoides striata</i> (Dumont, 1823)	Jungle Babbler	LC	Sch IV
		174) <i>Turdoides malcolmi</i> (Sykes, 1832)	Large Grey Babbler	LC	Sch IV
		175) <i>Chrysomma sinense</i> (Gmelin, 1789)	Yellow-eyed Babbler	LC	Sch IV
		176) * <i>Turdoides subrufa</i> (Jerdon, 1839)	Indian Rufous Babbler	LC	Sch IV
		177) <i>Dumetia hyperythra</i> (Franklin, 1831)	Tawny-bellied Babbler	LC	Sch IV
48) Cisticolidae		178) <i>Prinia inornata</i> Sykes, 1832	Plain Prinia	LC	Sch IV
		179) <i>Prinia socialis</i> Sykes, 1832	Ashy Prinia	LC	Sch IV
		180) <i>Orthotomus sutorius</i> (Pennant, 1769)	Common Tailorbird	LC	Sch IV
		181) <i>Prinia hodgsonii</i> Blyth, 1844	Grey-breasted Prinia	LC	Sch IV
		182) <i>Prinia sylvatica</i> Jerdon, 1840	Jungle Prinia	LC	Sch IV
49) Paridae		183) <i>Parus major</i> Linnaeus, 1758	Great Tit	LC	Sch IV
		184) <i>Parus xanthogenys</i> Vigors, 1831	Black-lored Yellow Tit	LC	Sch IV
50) Nectariniidae		185) <i>Cinnyris asiaticus</i> (Latham, 1790)	Purple Sunbird	LC	Sch IV
		186) * <i>Cinnyris lotenius</i> (Linnaeus, 1766)	Loten's Sunbird	LC	Sch IV
		187) * <i>Leptocoma zeylonica</i> (Linnaeus, 1766)	Purple-rumped Sunbird	LC	Sch IV
		188) * <i>Leptocoma minima</i> (Sykes, 1832)	Crimson-backed Sunbird	LC	Sch IV
51) Zosteropidae		189) <i>Zosterops palpebrosus</i> (Temminck, 1824)	Oriental White-eye	LC	Sch IV
52) Emberizidae		190) <i>Melophus lathami</i> (Gray, 1831)	Crested Bunting	LC	Sch IV
53) Fringillidae		191) <i>Carpodacus erythrinus</i> (Pallas, 1770)	Common Rosefinch	LC	Sch IV
54) Estrildidae		192) <i>Eudice malabarica</i> (Linnaeus, 1758)	Indian Silverbill	LC	Sch IV
		193) <i>Lonchura punctulata</i> (Linnaeus, 1758)	Scaly-breasted Munia	LC	Sch IV
		194) <i>Lonchura striata</i> (Linnaeus, 1766)	White-rumped Munia	LC	Sch IV
		195) <i>Amandava amandava</i> (Linnaeus, 1758)	Red Avadavat	LC	Sch IV
55) Passeridae		196) <i>Passer domesticus</i> (Linnaeus, 1758)	House Sparrow	LC	Sch IV
56) Ploceidae		197) <i>Ploceus philippinus</i> (Linnaeus, 1766)	Baya Weaver	LC	Sch IV
57) Sturnidae		198) <i>Temenuchus pagodarum</i> (Gmelin, 1789)	Brahminy Starling	LC	Sch IV
		199) <i>Acridotheres fuscus</i> (Wagler, 1827)	Jungle Myna	LC	Sch IV
		200) <i>Acridotheres tristis</i> (Linnaeus, 1766)	Common Myna	LC	Sch IV
58) Oriolidae		201) <i>Oriolus kundoo</i> Sykes, 1832	Indian Golden Oriole	LC	Sch IV
59) Dicruridae		202) <i>Dicrurus macrocercus</i> Vieillot, 1817	Black Drongo	LC	Sch IV
		203) <i>Dicrurus paradiseus</i> (Linnaeus, 1766)	Greater Racket-tailed Drongo	LC	Sch IV
		204) <i>Dicrurus leucophaeus</i> Vieillot, 1817	Ashy Drongo	LC	Sch IV
		205) <i>Dicrurus aeneus</i> Vieillot, 1817	Bronzed Drongo	LC	Sch IV
60) Corvidae		206) <i>Dendrocitta vagabunda</i> (Latham, 1790)	Rufous Treepie	LC	Sch IV
		207) <i>Corvus culminatus</i> Sykes, 1832	Indian Jungle Crow	LC	Sch V
		208) <i>Corvus splendens</i> Vieillot, 1817	House Crow	LC	Sch V

Appendix 3. Check list of reptiles (Class Reptilia) of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterisk.

Order	Family	Species name	Common name	Red List	IWPA
1) Crocodylia	1) Crocodylidae	1) <i>Crocodylus palustris</i> Lesson, 1831	Mugger Crocodile	VU	Sch I Part II
2) Testudines	2) Trionychidae	2) <i>Lissemys punctata</i> (Lacepede, 1788)	Indian Flapshell Turtle	NE	Sch I Part II
		3) * <i>Nilssonia leithii</i> Gray, 1872	Leith's Softshell Turtle	VU	-
3) Squamata	3) Gekkonidae	4) <i>Cnemaspis girii</i> Mirza, Pal, Bhosale & Sanap, 2014	Giri's Day Gecko	-	-
		5)* <i>Geckoella deccanensis</i> (Gunther, 1864)	Deccan Banded Gecko	LC	-
		6) <i>Hemidactylus brookii</i> Gray, 1845	Brook's House Gecko	LC	-
		7) <i>Hemidactylus flaviviridis</i> Ruppell, 1835	Yellow-Green House Gecko	LC	-
		8) <i>Hemidactylus frenatus</i> Schlegel, 1836	Asian House Gecko	LC	-
		9) * <i>Hemidactylus gracilis</i> Blanford, 1870	Graceful Leaf-toed Gecko	LC	-
		10) <i>Hemidactylus leschenaultii</i> Dumeril & Bibron, 1836	Leschenault's Leaf-toed Gecko	LC	-
		11) <i>Hemidactylus triedrus</i> Daudin, 1802	Termite Hill Gecko	LC	-
		12) * <i>Hemidactylus satarensis</i> Giri & Bauer, 2008	Satara Rock Gecko	VU	-
		13) <i>Hemidactylus maculatus</i> Dumeril & Bibron, 1836	Spotted Leaf-toed Gecko	LC	-
		14) * <i>Hemidactylus prashadi</i> Smith, 1935	Bombay Leaf-toed Gecko	LC	-
	4) Agamidae	15) <i>Calotes versicolor</i> (Daudin, 1802)	Indian Garden Lizard	NE	-
		16) * <i>Calotes rouxii</i> Dumeril & Bibron, 1837	Roux's Forest Lizard	LC	-
		17) <i>Sitana laticeps</i> Deepak & Giri, 2016	Broad-headed Fan-throated Lizard	NE	-
	5) Chamaeleonidae	18) <i>Chamaeleo zeylanicus</i> Laurenti, 1768	Indian Chameleon	VU	Sch II Part I
	6) Lacertidae	19) * <i>Ophisops beddomei</i> (Jerdon, 1870)	Beddome's Snake-Eye	LC	-
		20) <i>Ophisops jerdonii</i> (Blyth, 1853)	Jerdon's Snake-Eye	LC	-
	7) Scincidae	21) <i>Eutropis carinata</i> (Schneider, 1801)	Keeled Grass Skink	LC	-
		22) <i>Eutropis macularia</i> (Blyth, 1853)	Bronze Grass Skink	LC	-
		23) * <i>Eutropis trivittata</i> (Hardwicke & Gray, 1827)	Three Lined Grass Skink	LC	-
		24) <i>Lygosoma lineata</i> (Gray, 1839)	Lined Supple Skink	LC	-
		25) <i>Lygosoma punctata</i> Gmelin, 1799	Supple Skink	LC	-
		26) <i>Lygosoma guentheri</i> (Gunther, 1864)	Snake Skink	LC	-
	8) Varanidae	27) <i>Varanus bengalensis</i> (Daudin, 1802)	Bengal Monitor	VU	Sch I Part II
	9) Typhlopidae	28) <i>Ramphotyphlops braminus</i> (Daudin, 1803)	Brahminy Worm Snake	NE	Sch IV
		29) * <i>Grypotyphlops acutus</i> (Dumeril & Bibron, 1844)	Beaked Worm Snake	LC	Sch IV
		30) * <i>Typhlops beddomii</i> Boulenger, 1890	Beddom's Worm Snake	DD	Sch IV
	10) Uropeltidae	31) * <i>Uropeltis ellioti</i> (Gray, 1858)	Elliot's Shieldtail	LC	Sch IV
		32) * <i>Uropeltis macrolepis</i> (Peters, 1862)	Large-scaled Shieldtail	LC	Sch IV
		33) * <i>Uropeltis phipsonii</i> (Mason, 1888)	Phipson's Shieldtail	VU	Sch IV
	11) Pythonidae	34) <i>Python molurus</i> (Linnaeus, 1758)	Indian Rock Python	NE	Sch I Part II
	12) Boidae	35) <i>Gongylophis conicus</i> (Schneider, 1801)	Common Sand Boa	NE	Sch IV
		36) * <i>Eryx johnii</i> (Russell, 1801)	Red Sand Boa	LC	Sch IV

Order	Family	Species name	Common name	Red List	IWPA
		37) <i>Eryx whitakeri</i> Das, 1991	Whitaker's Boa	NE	Sch IV
	13) Colubridae	38) <i>Ahaetulla nasuta</i> (Lacepede, 1789)	Common Vine Snake	NE	Sch IV
		49) <i>Ahaetulla pulverulenta</i> (Dumeril & Bibron, 1854)	Brown Vine Snake	LC	Sch IV
		40) * <i>Amphiesma beddomei</i> (Gunther, 1864)	Beddome's Keelback	LC	Sch IV
		41) <i>Amphiesma stolatum</i> (Linnaeus, 1758)	Buff-Striped Keelback	NE	Sch IV
		42) <i>Argyrogena fasciolata</i> (Shaw, 1802)	Banded Racer	NE	Sch IV
		43) <i>Boiga beddomei</i> (Wall, 1909)	Beddome's Cat Snake	DD	Sch IV
		44) <i>Boiga ceylonensis</i> (Gunther, 1858)	Ceylon Cat Snake	NE	Sch IV
		45) <i>Boiga trigonata</i> (Schneider, 1802)	Common Indian Cat	LC	Sch IV
		46) <i>Boiga forsteni</i> (Dumeril, Bibron & Dumeril, 1854)	Forsten's Cat Snake	LC	Sch IV
		47) * <i>Psammophis longifrons</i> Boulenger, 1896	Stout Sand Racer	LC	Sch IV
		48) * <i>Coronella brachyura</i> (Gunther, 1866)	Indian Smooth Snake	LC	Sch IV
		49) <i>Coelognathus helena</i> (Daudin, 1803)	Common Indian Trinket Snake	NE	Sch IV
		50) <i>Coluber gracilis</i> (Günther, 1862)	Slender Racer	DD	Sch IV
		51) <i>Dendrelaphis tristis</i> (Daudin, 1803)	Common Bronzeback Tree Snake	NE	Sch IV
		52) <i>Liopeltis calamaria</i> (Gunther, 1858)	Calamaria Reed Snake	DD	Sch IV
		53) <i>Lycodon aulicus</i> (Linnaeus, 1758)	Common Wolf Snake	NE	Sch IV
		54) * <i>Lycodon flavomaculatus</i> Wall, 1907	Yellow Spotted Wolf Snake	LC	Sch IV
		55) <i>Lycodon striatus</i> (Shaw, 1802)	Barred Wolf Snake	NE	Sch IV
		56) * <i>Lycodon travancoricus</i> (Beddome, 1870)	Travancore Wolf Snake	LC	Sch IV
		57) <i>Macropisthodon plumbicolor</i> (Cantor, 1839)	Green Keelback	NE	Sch IV
		58) <i>Oligodon arnensis</i> (Shaw, 1802)	Common Kukri Snake	NE	Sch IV
		59) <i>Oligodon taeniatus</i> (Jerdon, 1853)	Streaked Kukri Snake	NE	Sch IV
		60) <i>Ptyas mucosa</i> (Linnaeus, 1758)	Indian Rat Snake	NE	Sch IV
		61) * <i>Rhabdops olivaceus</i> (Beddome, 1863)	Olive Forest Snake	LC	Sch IV
		62) <i>Sibynophis subpunctatus</i> (Duméril, Bibron & Duméril, 1854)	Duméril's Black-headed Snake	NE	Sch IV
		63) <i>Xenochrophis piscator</i> (Schneider, 1799)	Checkered Keelback	NE	Sch IV
	14) Elapidae	64) <i>Bungarus caeruleus</i> (Schneider, 1801)	Common Indian Krait	NE	Sch IV
		65) <i>Bungarus sindanus walli</i> (Wall, 1907)	Wall's Sind Krait	DD	Sch IV
		66) * <i>Calliophis melanurus</i> (Shaw, 1802)	Slender Coral Snake	NE	Sch IV
		67) * <i>Calliophis nigrescens</i> (Gunther, 1862)	Striped Coral Snake	LC	Sch IV
		68) <i>Calliophis castoe</i> Smith, Ogale, Deepak & Giri, 2012	Castoe's Coral Snake	-	Sch IV
		69) <i>Naja naja</i> (Linnaeus, 1758)	Spectacled Cobra	NE	Sch II partII
	15) Viperidae	70) <i>Daboia russelii</i> (Shaw & Nodder, 1797)	Russell's Viper	NE	Sch II partII
		71) <i>Echis carinatus</i> (Schneider, 1801)	Indian Saw-scaled Viper	VU	Sch IV
		72) * <i>Hypnale hypnale</i> (Merrem, 1820)	Hump-nosed Pit Viper	LC	Sch IV
		73)* <i>Trimeresurus gramineus</i> (Shaw, 1802)	Bamboo Pit Viper	LC	Sch IV
		74) * <i>Trimeresurus malabaricus</i> (Jerdon, 1854)	Malabar Pit Viper	LC	Sch IV

Appendix 4. Checklist of amphibians (Class Amphibia) of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterix.

Order	Family	Species name	Common name	Red List	IWPA
1) Anura	1) Bufonidae	1) <i>Duttaphrynus stomaticus</i> (Lütken, 1864)	Marbled Toad	LC	-
		2) <i>Duttaphrynus melanostictus</i> (Schneider, 1799)	Common Indian Toad	LC	-
		3) <i>Xanthophryne koynayensis</i> (Soman, 1963)	Koyna Toad	EN	-
		4) <i>Xanthophryne tigerinus</i> (Biju, Van Boclaer, Giri, Loader & Bossuyt, 2009)	Konkan Tiger Toad	CR	-
	2) Dicroglossidae	5) <i>Hoplobatrachus tigerinus</i> (Daudin, 1802)	Indian Bull frog	LC	Sch IV
		6) <i>Euphlyctis cyanophlyctis</i> (Schneider, 1799)	Indian Skipper Frog	LC	-
		7) <i>Zakerana sahyadrensis</i> (Annandale, 1919)	Sahyadri Cricket Frog	LC	-
		8) <i>Zakerana rufescens</i> (Jerdon, 1854)	Rufescent Burrowing Frog	LC	-
		9) <i>Sphaerotheca breviceps</i> (Schneider, 1799)	Indian Burrowing Frog	LC	-
		10) <i>Sphaerotheca dobsoni</i> (Boulenger, 1882)	Dobson's Burrowing Frog	LC	-
	3) Microhylidae	11) <i>Microhyla ornata</i> (Duméril & Bibron, 1841)	Ornamented Pygmy Frog	LC	-
	4) Nyctibatrachidae	12) * <i>Nyctibatrachus humayuni</i> (Bhaduri and Kripalani, 1955)	Humayun's Wrinkled Frog	VU	-
		13) * <i>Nyctibatrachus danieli</i> (Biju et al., 2011)	Daniel's Night Frog	LC	-
	5) Ranidae	14) <i>Hydrophylax bahuvistara</i> (Tschudi, 1838)	Fungoid Frog	LC	-
		15) <i>Hylarana aurantiaca</i> (Boulenger, 1904)	Golden Frog	VU	-
		16) <i>Hylarana temporalis</i> (Günther, 1864)	Bronzed Frog	NT	-
		17) <i>Clinotarsus curtipes</i> (Jerdon, 1853)	Bicolored Frog	NT	-
	6) Ranixalidae	18) <i>Indirana leithii</i> (Boulenger, 1888)	Leith's Leaping Frog	VU	-
		19) <i>Indirana beddomii</i> (Günther, 1876)	Beddome's Leaping Frog	LC	-
		20) <i>Indirana semipalmata</i> (Boulenger, 1882)	Small-handed Leaping Frog	LC	-
		21) * <i>Indirana brachytarsus</i> (Günther, 1876)	Short-legged Frog	EN	-
	7) Rhacophoridae	22) <i>Raorchestes bombayensis</i> (Annandale, 1919)	Konkan Bush Frog	VU	-
		23) <i>Raorchestes ghatei</i> (Padhye, Sayyed, Jadhav & Dahanukar, 2013)	Ghate's Shrub Frog	-	-
		24) <i>Polypedates maculatus</i> (Gray, 1830)	Indian Tree Frog	LC	-
2) Gymnophiona	8) Caeciliidae	25) <i>Indotyphlus maharashtraensis</i> (Giri, Gower & Wilkinson, 2004)	Humbarli Caecilian	DD	-
		26) <i>Gegeneophis</i> spp.	-	-	-
	9) Ichthyophiidae	27) <i>Ichthyophis bombayensis</i> (Taylor, 1960)	Bombay Caecilian	LC	-

Appendix 5. Checklist of fishes (Class Pisces) of Satara District, Maharashtra, India as observed between January 2007 and December 2010.
 Indian endemic species are marked with an asterisk; exotic species are marked with †.

Order	Family	Species name	Common name	Red List	IWPA
1) Osteoglossiformes	1) Notopteridae	1) <i>Notopterus notopterus</i> (Pallas, 1769)	Bronze Featherback	-	-
2) Anguilliformes	2) Anguillidae	2) <i>Anguilla bengalensis</i> (Gray, 1831)	Indian Mottled Eel	NT	-
3) Cypriniformes	3) Cyprinidae	3) <i>Barilius barna</i> (F. Hamilton, 1822)	Barna Barila	-	-
		4) <i>Barilius bendelisis</i> (F. Hamilton, 1807)	Hamilton's Barila	-	-
		5)* <i>Barilius gatensis</i> (Valenciennes, 1844)	Malabar Baril	-	-
		6) <i>Cirrhinus fulungee</i> (Sykes, 1839)	Deccan White Carp	NE	-
		7) <i>Cirrhinus mrigala</i> (Bloch, 1795)	Mrigal Carp	VU	-
		8) <i>Cirrhinus cirrhosus</i> (Bloch, 1795)	Cauvery White Carp	VU	-
		9) <i>Chela cachius</i> (F. Hamilton, 1822)	Neon Hatchet Fish	-	-
		10) <i>Ctenopharyngodon idella</i> (Cuvier & Valenciennes, 1844)	Grass Carp	-	-
		11)† <i>Cyprinus carpio</i> (Linnaeus, 1758)	Wild Common Carp	VU	-
		12) <i>Catla catla</i> (F. Hamilton, 1822)	Catla	LC	-
		13) <i>Crossocheilus cf. latius</i> (Hamilton, 1822)	Gangetic Latia	LC	-
		14) <i>Devario aequipinnatus</i> (Mc Clelland, 1839)	Giant Danio	DD	-
		15) * <i>Garra bicornuta</i> Narayan Rao, 1920	Tunga Garra	NT	-
		16) <i>Garra gotyla</i> (Gray, 1830)	Gotyla	LC	-
		17) * <i>Garra mullya</i> (Sykes, 1839)	Garra Mullya	LC	-
		18) <i>Hypselobarbus curmuca</i> (Hamilton, 1807)	Curmuca Barb	EN	-
		19) * <i>Hypselobarbus kolas</i> (Sykes, 1839)	Kolus Barb	VU	-
		20) <i>Labeo boga</i> (F. Hamilton, 1822)	Boga Labeo	LC	-
		21) <i>Labeo bogut</i> (Sykes, 1839)	Minor Carp	LC	-
		22) <i>Labeo calbasu</i> (Hamilton, 1822)	Orange-fin Labeo	LC	-
		23) <i>Labeo porcellus</i> (Heckel, 1844)	Bombay Labeo	LC	-
		24) <i>Labeo rohita</i> (F. Hamilton, 1822)	Rohu	LC	-
		25) <i>Labeo ariza</i> (Hamilton, 1807)	Ariza Labeo	LC	-
		26) * <i>Osteobrama vigorsii</i> (Sykes, 1839)	Godavari Osteobrama	LC	-
		27) <i>Osteobrama cotio</i> (Hamilton, 1822)	-	LC	-
		28)* <i>Osteochilichthys nashii</i> (Day, 1869)	Chandkas Barb	LC	-
		29) * <i>Puntius cf. amphibius</i> (Valenciennes, 1842)	Scarlet-banded Barb	DD	-
		30) <i>Hypselobarbus jerdoni</i> (Day, 1870)	Jerdon's Carp	LC	-
		31)* <i>Puntius deccanensis</i> Yazdani & Babu Rao, 1976	Deccan Barb	CR	-
		32) * <i>Puntius sahyadrensis</i> Silas, 1953	Khavli Barb	LC	-
		33) <i>Pethia conchonius</i> (Hamilton, 1822)	Rosy Barb	LC	-
		34) <i>Systomus sarana</i> (Hamilton, 1822)	Olive Barb	-	-
		35) <i>Puntius sophore</i> (Hamilton, 1822)	Spotfin Swamp Barb	LC	-
		36) <i>Pethia ticto</i> (Hamilton, 1822)	Two-spot Barb	LC	-
		37) <i>Pethia narayani</i> (Hora, 1937)	Narayan's Barb	LC	-
		38) <i>Rasbora daniconius</i> (Hamilton, 1822)	Common Rasbora	LC	-
		39) <i>Salmophasia balookee</i> (Sykes, 1839)	Bloch Razorbelly Minnow	LC	-
		40)* <i>Salmophasia boopis</i> (Day, 1874)	Boopis Razorbelly Minnow	-	-
		41) <i>Salmophasia novacula</i> (Valenciennes, 1840)	Novacula Razorbelly Minnow	-	-
		42) * <i>Schismatorhynchos nukta</i> (Sykes, 1839)	Nukta	EN	-
		43) <i>Tor khudree</i> (Sykes, 1839)	Black Mahseer	-	-

		44) * <i>Tor mussullah</i> (Sykes, 1839)	High-Backed Mahseer	-	-
		45) <i>Aspidoparia morar</i> (Hamilton, 1822)	Aspidoparia	-	-
		46) <i>Salmophasia bacaila</i> (Hamilton, 1822)	Garss Carp	-	-
		47) <i>Cirrhinus reba</i> (Hamilton, 1822)	Reba Carp	-	-
		48) <i>Hypophthalmichthys molitrix</i> (Valenciennes, 1844)	Silver Carp	NT	-
		49) <i>Danio</i> sp. Hamilton, 1822	-	-	-
4) Parapsilorhynchidae	50)* <i>Parapsilorhynchus discophorus</i> Hora, 1921	Ratnagiri Minnow	VU	-	-
	51) <i>Parapsilorhynchus tentaculatus</i> (Annandale, 1919)	Khandalla Minnow	LC	-	-
5) Balitoridae	52)* <i>Nemacheilus moorei</i> (Sykes, 1839)	Murangi	-	-	-
	53) <i>Indoreonectes evezardi</i> (Day, 1872)	-	LC	-	-
	54) * <i>Nemachilichthys rueppelli</i> (Sykes, 1839)	Mongoose Loach	LC	-	-
	55) <i>Schistura denisonii</i> (Day, 1867)	-	LC	-	-
	56) * <i>Nemacheilus anguilla</i> (Annandale, 1919)	Chikli Loach	-	-	-
	57) <i>Acanthocobitis botia</i> (Hamilton, 1822)	Mottled Loach	LC	-	-
6) Cobitidae	58) * <i>Botia striata</i> Narayan Rao, 1920	Zebra Loach	EN	-	-
	59) <i>Lepidocephalus guntea</i> (Hamilton, 1822)	Peppered Loach	LC	-	-
	60) <i>Lepidocephalus thermalis</i> (Valenciennes, 1846)	Malabar Loach	-	-	-
4) Siluriformes	7) Bagridae	61) <i>Mystus bleekeri</i> (Day, 1877)	Day's Mystus	-	-
		62) * <i>Mystus malabaricus</i> (Jerdon, 1849)	Jerdon's Mystus	-	-
		63) <i>Mystus seengtee</i> (Sykes, 1839)	-	LC	-
		64) <i>Mystus cavasius</i> (Hamilton, 1822)	Gangetic Mystus	LC	-
		65) <i>Mystus vittatus</i> (Bloch, 1794)	Striped Dwarf Catfish	LC	-
		66) <i>Sperata seenghala</i> (Sykes, 1839)	Giant River-Catfish	LC	-
8) Siluridae	67) <i>Ompok bimaculatus</i> (Bloch, 1794)	Butter Catfish	LC	-	-
		68) <i>Wallago attu</i> Bloch & Schneider, 1801	Fresh Water shark	NT	-
9) Schilbeidae	69) * <i>Neotropius khavalchor</i> Kulkarni, 1952	Khavalchor Catfish	DD	-	-
10) Sisoridae	70) <i>Glyptothorax ionah</i> (Sykes, 1839)	Mountain Catfish	LC	-	-
		71) * <i>Glyptothorax cf. poonaensis</i> Hora, 1938	Rock Sucker	EN	-
		72) * <i>Glyptothorax trewavasae</i> Hora, 1938	-	VU	-
11) Clariidae	73) <i>Clarias batrachus</i> (Linnaeus, 1758)	Walking Catfish	NE	-	-
12) Heteropneustidae	74) <i>Heteropneustes fossilis</i> (Bloch, 1794)	Asian Stinging Catfish	LC	-	-
5) Beloniformes	13) Belontidae	75) <i>Xenentodon cancila</i> (Hamilton, 1822)	Freshwater Gar Fish	LC	-
6) Cyprinodontiformes	14) Poeciliidae	76)+ <i>Gambusia affinis</i> (Baird & Girard, 1853)	Western Mosquitofish	LC	---
		77)+ <i>Poecilia reticulata</i> W.K.H. Peters, 1859	Guppy	LC	-
7) Perciformes	15) Ambassidae	78) <i>Chanda nama</i> Hamilton, 1822	Elongate Glass Perchlet	LC	-
		79) <i>Pseudambassis ranga</i> (Hamilton, 1822)	Indian Glassy Fish	LC	-
		80) <i>Parambassis baculis</i> (Hamilton, 1822)	-	NT	-
	16) Cichlidae	81)+ <i>Oreochromis mossambicus</i> (W.K.H. Peters, 1852)	Mozambique Tilapia	NT	-
	17) Gobiidae	82) <i>Glossogobius giuris</i> (Hamilton, 1822)	Fresh Water Goby	LC	-
	18) Channidae	83) <i>Channa gachua</i> (Hamilton, 1822)	Dwarf Snakehead	LC	-
		84) <i>Channa marulioides</i> (Hamilton, 1822)	Giant Snakehead	LC	-
		85) <i>Channa striatus</i> (Bloch, 1793)	Striped Snakehead	LC	-
8) Synbranchiformes	19) Synbranchidae	86) <i>Monopterus albus</i> (Zuijew, 1793)	Asian Swamp Eel	-	-
		87) <i>Monopterus cf. indicus</i> (Silas & Dawson, 1961)	Bombay Swamp Eel	NT	-
	20) Mastacembelidae	88) <i>Mastacembelus armatus</i> (Lacepède, 1800)	Tire Track Eel	LC	-
		89) <i>Macrognathus panchalus</i> (F. Hamilton, 1822)	Barred Spiny Eel	LC	-

Appendix 6. Check list of scorpions (Class Arachnida, Order Scorpionida) of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterisk.

Order	Family	Species name	Common name	Red List	IWPA
1) Scorpionida	1) Buthidae	1) * <i>Hottentotta pachyurus</i> (Pocock, 1897)	-	-	-
		2) <i>Hottentotta tamulus</i> (Fabricius, 1798)	-	-	-
		3) * <i>Hottentotta rugiscutis</i> (Pocock, 1897)	-	-	-
		4) <i>Orthochirus bicolor</i> (Pocock, 1897)	-	-	-
		5) <i>Lychas</i> sp. C.L. Koch, 1845	-	-	-
	2) Euscorpiidae	6) <i>Neoscorpiops satarensis</i> (Pocock, 1900)	-	-	-
	3) Scorpionidae	7) <i>Heterometrus xanthopus</i> (Pocock, 1897)	-	-	-
		8) * <i>Heterometrus phipsoni</i> (Pocock, 1893)	-	-	-
		9) <i>Heterometrus bengalensis</i> (C.L. Koch, 1841)	-	-	-
		10) <i>Heterometrus swammerdami</i> (Simon, 1872)	-	-	-
		11) <i>Heterometrus fastigiosus</i> (Couzijn, 1981)	-	-	-

Appendix 7. Check list of spiders (Class Arachnida, Order Aranae) of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterix.

Order	Family	Species name	Common name	Red List	IWPA
1) Araneae	1) Araneidae	1) <i>Araneus himalayensis</i> (Tikader, 1975)	-	-	-
		2) <i>Argiope anasuja</i> (Tikader, 1975)	-	-	-
		3) <i>Argiope pulchella</i> (Thorell, 1881)	-	-	-
		4) <i>Eriovixia laglaizei</i> (Simon, 1877)	-	-	-
		5) <i>Neoscona rumpfi</i> (Yaginuma, 1955)	-	-	-
		6) <i>Gasteracantha</i> spp. (Sundevall, 1833)	-	-	-
	2) Eresidae	7) <i>Stegodyphus sarasinorum</i> (Karsch, 1891)	-	-	-
	3) Hersiliidae	8) <i>Hersilia savignyi</i> (Lucas, 1836)	-	-	-
	4) Lycosidae	9) <i>Hippasa greenalliae</i> (Blackwall, 1867)	-	-	-
		10) <i>Hippasa partita</i> (Cambridge, 1876)	-	-	-
		11) <i>Hippasa agelenoides</i> (Simon, 1884)	-	-	-
		12) <i>Hippasa pisaurina</i> (Pocock, 1900)	-	-	-
		13) * <i>Hippasa loundesi</i> (Gravely, 1924)	-	-	-
		14) * <i>Lycosa mahabaleshwrensis</i> (Tikader & Malhotra, 1980)	-	-	-
		15) <i>Lycosa mackenziei</i> (Gravely, 1924)	-	-	-
	5) Oxyopidae	16) <i>Oxyopes birmanicus</i> (Thorell, 1887)	-	-	-
		17) * <i>Oxyopes ashae</i> (Gajbe, 1999)	-	-	-
		18) * <i>Oxyopes pankaji</i> (Gajbe & Gajbe, 2000)	-	-	-
		19) <i>Peucetia viridana</i> (Stoliczka, 1869)	-	-	-
	6) Pholcidae	20) <i>Smeringopus</i> sp. (Simon, 1890)	-	-	-
	7) Pisauridae	21) <i>Thalassius albocinctus</i> (Doleschall, 1859)	-	-	-
		22) <i>Perenethis venusta</i> (L. Koch, 1878)	-	-	-
	8) Salticidae	23) <i>Hasarius adansoni</i> (Audouin, 1826)	-	-	-
		24) <i>Menemerus</i> sp. (Simon, 1868)	-	-	-
		25) <i>Plexippus paykulli</i> (Audouin, 1826)	-	-	-
		26) <i>Plexippus petersi</i> (Karsch, 1878)	-	-	-
		27) <i>Telamonia dimidiata</i> (Simon, 1899)	-	-	-

Order	Family	Species name	Common name	Red List	IWPA
		28) <i>Myrmachne plataleoides</i> (Cambridge, 1869)	-	-	-
	9) Tetragnathidae	29) <i>Leucauge decorata</i> (Walckenaer, 1841)	-	-	-
		30) * <i>Tetragnatha viridorufa</i> (Gravely, 1921)	-	-	-
		31) <i>Tetragnatha mandibulata</i> (Walckenaer, 1842)	-	-	-
	10) Thomisidae	32) * <i>Thomisus lobosus</i> (Tikader, 1965)	-	-	-
		33) * <i>Thomisus projectus</i> (Tikader, 1960)	-	-	-
	11) Nephilidae	34) <i>Nephila pilipes</i> (Fabricius, 1793)	-	-	-
		35) <i>Nephila kuhlii</i> (Doleschall, 1859)	-	-	-
	12) Theridiidae	36) <i>Latrodectus hasselti</i> (Thorell, 1870)	-	-	-
	13) Sparassidae	37) <i>Heteropoda venatoria</i> (Linnaeus, 1767)	-	-	-
		38) <i>Olios milleti</i> (Pocock, 1901)	-	-	-
	14) Theraphosidae	39) * <i>Chilobrachys fimbriatus</i> (Pocock, 1899)	Indian Violet Spider	-	-
		40) * <i>Plesiophriictus millardi</i> (Pocock, 1899)	-	-	-
	15) Idiopidae	41) <i>Idiops kaasensis</i> (Mirza et al., 2012)	-	-	-
2) Solifugae	16) Galeodidae	42) <i>Galeodes cf. indicus</i> (Pocock, 1900)	Camel Spider	-	-

Appendix 8. Check list of butterflies (Class Insecta, Order Lepidoptera) of Satara District, Maharashtra, India as observed between January 2007 and December 2010. Indian endemic species are marked with an asterisk.

Order	Family	Species name	Common name	Red List	IWPA
1) Lepidoptera	1) Papilionidae	1) <i>Graphium doson</i> C & R Felder, 1864	Common Jay	-	-
		2) <i>Graphium agamemnon</i> (Linnaeus, 1758)	Tailed Jay	-	-
		3) <i>Graphium sarpedon</i> (Linnaeus, 1758)	Common Bluebottle	-	-
		4) <i>Pachliopta aristolochiae</i> (Fabricius, 1775)	Common Rose	-	-
		5) <i>Pachliopta hector</i> (Linnaeus, 1758)	Crimson Rose	-	Sch I part IV
		6) <i>Papilio clytia</i> Linnaeus, 1758	Common Mime	-	Sch I part IV
		7) <i>Papilio polymnestor</i> Cramer, 1775	Blue Mormon	-	-
		8) <i>Papilio helenus</i> Linnaeus, 1758	Red Helen	-	-
		9) <i>Papilio polytes</i> Linnaeus, 1758	Common Mormon	-	-
		10) <i>Papilio demoleus</i> Linnaeus, 1758	Lime Butterfly	-	-
	2) Pieridae	11) <i>Belenois aurota</i> (Fabricius, 1793)	Pioneer	-	-
		12) <i>Cepora nerissa</i> Fabricius, 1775	Common Gull	-	-
		13) <i>Cepora nadina</i> (Lucas, 1852)	Lesser Gull	-	-
		14) <i>Ixias marianne</i> (Cramer, 1779)	White Orange Tip	-	-
		15) <i>Hebomoia glaucippe</i> (Linnaeus, 1758)	Great Orange-Tip	-	-
		16) <i>Delias eucharis</i> (Drury, 1773)	Common Jezebel	-	-
		17) <i>Appias albina</i> (Boisduval, 1836)	Common Albatross	-	-
		18) <i>Appias indra</i> Moore, 1857	Plain Puffin	-	-
		19) * <i>Appias wardii</i> (Moore, 1884)	Lesser Albatross	-	-
		20) <i>Leptosia nina</i> (Fabricius, 1793)	Psyche	-	-
		21) <i>Pareronia valeria</i> (Cramer, 1776)	Common Wanderer	-	-
		22) <i>Colotis amata</i> (Fabricius, 1775)	Small Salmon Arab	-	-
		23) <i>Catopsilia pyranthe</i> (Linnaeus, 1758)	Mottled Emigrant	-	-
		24) <i>Catopsilia pomona</i> Fabricius, 1775	Common Emigrant	-	-

Order	Family	Species name	Common name	Red List	IWPA
		25) <i>Eurema laeta</i> Boisduval, 1836	Spotless Grass Yellow	-	-
		26) <i>Eurema hecate</i> (Linnaeus, 1758)	Common Grass Yellow	-	-
		27) <i>Eurema blanda</i> Boisduval, 1836	Three-Spot Grass Yellow	-	-
		28) <i>Eurema brigitta</i> (Cramer, 1780)	Small Grass Yellow	-	-
3) Nymphalidae		29) <i>Limenitis procris</i> (Cramer, 1777)	Commander	-	-
		30) <i>Athyma perius</i> (Linnaeus, 1758)	Common Sergeant	-	-
		31) <i>Pantoporia hordonia</i> (Stoll, 1790)	Common Lascar	-	-
		32) <i>Neptis hylas</i> (Linnaeus, 1758)	Common Sailer	-	-
		33) <i>Neptis jumbah</i> Moore, 1857	Chestnut-Streaked Sailer	-	-
		34) <i>Neptis columella</i> (Cramer, 1780)	Short Banded Sailer	-	-
		35) <i>Euthalia aconthea</i> (Hewitson, 1874)	Common Baron	-	-
		36) <i>Euthalia lubentina</i> (Cramer, 1777)	Gaudy Baron	-	-
		37) <i>Euthalia nais</i> (Forster, 1771)	Baronet	-	-
		38) <i>Tanaecia lepidea</i> (Butler, 1868)	Grey Count	-	-
		39) <i>Libythea lepita</i> Moore, 1857	Common Beak	-	-
		40) <i>Tirumala limniace</i> (Cramer, 1775)	Blue Tiger	-	-
		41) <i>Parantica aglea</i> (Stoll, 1782)	Glassy Tiger	-	-
		42) <i>Danaus chrysippus</i> (Linnaeus, 1758)	Plain Tiger	-	-
		43) <i>Danaus genutia</i> (Cramer, 1779)	Common or Striped Tiger	-	-
		44) <i>Euploea core</i> (Cramer, 1780)	Common Indian Crow	-	-
		45) <i>Charaxes bernardus</i> (Fabricius, 1793)	Tawny Rajah	-	-
		46) <i>Charaxes solon</i> (Fabricius, 1793)	Black Rajah	-	-
		47) <i>Polyura athamas</i> (Drury, 1773)	Common Nawab	-	-
		48) <i>Polyura agrarian</i> (Swinhoe, 1887)	Anomalous Common Nawab	-	-
		49) <i>Mycalesis perseus</i> (Fabricius, 1775)	Common Bushbrown	-	-
		50) <i>Elymnias hypermnestra</i> (Linnaeus, 1763)	Common Palmfly	-	-
		51) <i>Ypthima asterope</i> (Klug, 1832)	Common Threering	-	-
		52) <i>Ypthima baldus</i> (Fabricius, 1775)	Common Fivering	-	-
		53) <i>Ypthima huebneri</i> Kirby, 1871	Common Fourring	-	-
		54) <i>Melanitis zitenius</i> (Herbst, 1796)	Great Evening Brown	-	-
		55) <i>Melanitis leda</i> (Linnaeus, 1758)	Common Evening Brown	-	-
		56) <i>Melanitis phedima</i> (Cramer, 1780)	Dark Evening Brown	-	-
		57) <i>Lethe europa</i> (Fabricius, 1787)	Bamboo Treebrown	-	-
		58) <i>Lethe rohria</i> (Fabricius, 1787)	Common Treebrown	-	-
		59) <i>Cupha erymanthis</i> (Drury, 1773)	Rustic	-	-
		60) <i>Phalanta phalantha</i> (Drury, 1773)	Common Leopard	-	-
		61) <i>Cyrestis thyodamas</i> Boisduval, 1836	Common Map	-	-
		62) <i>Acraea terpsicore</i> (Linnaeus, 1758)	Tawny Coster	-	-
		63) <i>Ariadne ariadne</i> (Linnaeus, 1763)	Angled Castor	-	-
		64) <i>Ariadne merione</i> (Cramer, 1777)	Common Castor	-	-
		65) <i>Vanessa cardui</i> (Linnaeus, 1758)	Painted Lady	-	-
		66) <i>Junonia atlites</i> (Linnaeus, 1763)	Gray Pansy	-	-
		67) <i>Junonia almana</i> (Linnaeus, 1758)	Peacock Pansy	-	-

Order	Family	Species name	Common name	Red List	IWPA
		68) <i>Junonia hirta</i> (Fabricius, 1798)	Yellow Pansy	-	-
		69) <i>Junonia iphita</i> (Cramer, 1779)	Chocolate Pansy	-	-
		70) <i>Junonia lemonias</i> (Linnaeus, 1758)	Lemon Pansy	-	-
		71) <i>Junonia orithya</i> (Linnaeus, 1758)	Blue Pansy	-	-
		72) <i>Hypolimnas bolina</i> (Linnaeus, 1758)	Great Eggfly	-	-
		73) <i>Hypolimnas misippus</i> (Linnaeus, 1764)	Danaid Eggfly	-	-
		74) * <i>Kallima horsfieldii</i> Kollar, 1844	Blue Oakleaf	-	-
		75) <i>Rohana parisatis</i> Westwood, 1850	Black Prince	-	-
4) Lycaenidae		76) <i>Spalgis epius</i> (Westwood, 1851)	Apefly	-	-
		77) <i>Curetis thetis</i> (Hubner, 1819)	Indian Sunbeam	-	-
		78) <i>Pratapa deva</i> (Moore, 1857)	White Royal	-	-
		79) <i>Tajuria cippus</i> (Fabricius, 1798)	Peacock Royal	-	-
		80) <i>Chliaria othona</i> (Hewitson, 1865)	Orchid Tit	-	Sch I part IV
		81) <i>Virachola isocrates</i> (Fabricius, 1793)	Common Guava Blue	-	-
		82) <i>Virachola perse</i> Hewitson, 1863	Large Guava Blue	-	-
		83) <i>Deudorix epijarbas</i> (Moore, 1857)	Cornelian	-	-
		84) <i>Bindahara phocides</i> (Moore, 1857)	Plane	-	-
		85) <i>Rapala iarbus</i> (Fabricius, 1787)	Common Red Flash	-	-
		86) <i>Rapala schistacea</i> (Hewitson, 1863)	Slate Flash	-	-
		87) <i>Rapala varuna</i> (Hewitson, 1863)	Indigo Flash	-	-
		88) <i>Catapaecilma elegans</i> Druce, 1873	Common Tinsel	-	-
		89) <i>Anthene lycaenina</i> (C-Felder, 1868)	Pointed Ciliate Blue	-	-
		90) <i>Anthene emolus</i> (Godart, 1823)	Ciliate Blue	-	-
		91) <i>Syntarucus plinius</i> (Fabricius, 1793)	Zebra Blue	-	-
		92) <i>Nacaduba kurava</i> (Moore, 1857)	Transparent Six-line Blue	-	-
		93) <i>Nacaduba beroe</i> (Felder & Felder, 1865)	Opaque Six-line Blue	-	-
		94) <i>Prosotas nora</i> C-Felder, 1860	Common Lineblue	-	-
		95) <i>Prosotas dubiosa</i> (Semper, 1879)	Tailless Lineblue	-	-
		96) <i>Abisara echerius</i> (Stoll, 1890)	Plum Judy	-	-
		97) <i>Talicada nyseus</i> (Guerin, 1843)	Red Pierrot	-	-
		98) <i>Castalius rosiman</i> (Fabricius, 1775)	Common Pierrot	-	Sch I part IV
		99) <i>Tarucus extricatus</i> Butler, 1886	Rounded Pierrot	-	-
		100) <i>Caleta caleta</i> (Hewitson, 1876)	Angled Pierrot	-	-
		101) <i>Catochrysops strabo</i> Fabricius, 1793	Forget-me-not	-	-
		102) <i>Lampides boeticus</i> (Linnaeus, 1767)	Peablu	-	-
		103) <i>Acytolepis puspa</i> (Horsefield, 1828)	Common Hedge Blue	-	Sch I part IV
		104) <i>Chilades contracta</i> (Butler, 1880)	Small Cupid	-	-
		105) <i>Chilades parrhasius</i> (Fabricius, 1793)	Indian Cupid	-	-
		106) <i>Chilades laius</i> (Cramer, 1782)	Lime Blue	-	-
		107) <i>Edales pandava</i> (Horsfield, 1829)	Plains Cupid	-	-
		108) <i>Neopithecops zalmora</i> (Butler, 1870)	Quaker	-	-
		109) <i>Megisba Malaya</i> (Horsefield, 1828)	Malayan	-	-
		110) <i>Zizeeria karsandra</i> (Moore, 1865)	Dark Grass Blue	-	-
		111) <i>Zizina otis</i> (Fabricius, 1787)	Lesser Grass Blue	-	-

Order	Family	Species name	Common name	Red List	IWPA
		112) <i>Freyeria trochylus</i> (Freyer, 1845)	Grass Jewel	-	-
		113) <i>Euchrysops cneus</i> (Fabricius, 1778)	Gram Blue	-	-
		114) <i>Pseudozizeeria maha</i> (Kollar, 1848)	Pale Grass Blue	-	-
		115) <i>Zizula hylax</i> (Fabricius, 1775)	Tiny Grass Blue	-	-
		116) <i>Azanus ubaldus</i> (Stoll, 1882)	Bright Babul Blue	-	-
		117) <i>Azanus jesous</i> (Guerin, 1847)	African Babul Blue	-	-
		118) <i>Azanus uranus</i> Butler, 1886	Dull Babul Blue	-	-
		119) <i>Jamides bochus</i> Stoll, 1782	Dark Cerulean	-	-
		120) <i>Jamides alecto</i> (C-Felder, 1860)	Metallic Cerulean	-	-
		121) <i>Jamides celeno</i> (Cramer, 1775)	Common Cerulean	-	-
		122) <i>Spindasis vulcanus</i> (Fabricius, 1775)	Common Silverline	-	-
		123) <i>Spindasis lohita</i> (Horsefield, 1829)	Long-banded Silverline	-	-
		124) <i>Aphnaeus schistacea</i> Moore, 1881	Plumbeous Silverline	-	-
		125) <i>Aphnaeus ictis</i> Hewitson, 1865	Common Shot Silverline	-	-
		126) <i>Rathinda amor</i> (Fabricius, 1775)	Monkey puzzle	-	-
5) Hesperiidae		127) <i>Badamia exclamationis</i> (Fabricius, 1775)	Brown Awl	-	-
		128) <i>Hasora chromus</i> (Cramer, 1782)	Common Banded Awl	-	-
		129) <i>Hasora taminatus</i> (Hubner, 1818)	White Banded Awl	-	-
		130) <i>Hasora vitta</i> (Butler, 1870)	Plain Banded Awl	-	-
		131) <i>Ampittia dioscorides</i> (Fabricius, 1793)	Bush Hopper	-	-
		132) * <i>Arnetta vindhiana</i> (Moore, 1883)	Vindhyan Bob	-	-
		133) <i>Pseudoborbo bevani</i> (Moore, 1878)	Beavan's Swift	-	-
		134) <i>Borbo cinnara</i> (Wallace, 1866)	Rice Swift	-	-
		135) <i>Iambrix salsala</i> (Moore, 1865)	Chestnut Bob	-	-
		136) <i>Matapa aria</i> (Moore, 1865)	Common Redeye	-	-
		137) <i>Parnara nasa</i> (Fabricius, 1798)	Straight Swift	-	-
		138) <i>Pelopidas mathias</i> (Fabricius, 1798)	Dark Small-Branded Swift	-	-
		139) <i>Suastus gremius</i> (Fabricius, 1798)	Indian Palm Bob	-	-
		140) <i>Taractrocera ceramas</i> (Hewitson, 1868)	Tamil Grass Dart	-	-
		141) <i>Telicota ancilla</i> (Schaffer, 1869)	Dark Palm Dart	-	-
		142) <i>Telicota colon</i> (Fabricius, 1775)	Pale Palm Dart	-	-
		143) <i>Udaspes folus</i> (Cramer, 1775)	Grass Demon	-	-
		144) <i>Oriens goloides</i> (Moore, 1881)	Common Dartlet	-	-
		145) <i>Caprona ransonnetti</i> (Felder, 1868)	Golden Angle	-	-
		146) <i>Celaenorhinus ruficornis</i> (Mabille, 1878)	Tamil Spotted Flat	-	-
		147) <i>Celaenorhinus leucocera</i> (Kollar, 1848)	Common Spotted Flat	-	-
		148) <i>Odontoptilum angulata</i> (Felder, 1862)	Chestnut Angle	-	-
		149) <i>Sarangesa dasahara</i> (Moore, 1865)	Common Small Flat	-	-
		150) * <i>Sarangesa purendra</i> Moore, 1882	Spotted Small Flat	-	-
		151) <i>Spialia galba</i> (Fabricius, 1793)	Indian Skipper	-	-
		152) <i>Tapena twaihesi</i> (Moore, 1881)	Angled Flat	-	-
		153) <i>Tagiades litigiosa</i> (Moschler, 1878)	Water Snow Flat	-	-

Appendix 9. Checklist of dragonflies (Class Insecta, Order Odonata) of Satara District, Maharashtra, India as observed between January 2007 and December 2010.

Order	Family	Species name	Common name	Red List	IWPA
1) Odonata	1) Aeshnidae	1) <i>Anax guttatus</i> (Burmeister, 1839)	Lesser Green Emperor	-	-
	2) Libellulidae	2) <i>Bradinopyga geminata</i> (Rambur, 1842)	Granite Ghost	-	-
		3) <i>Crocothemis servilia</i> (Drury, 1773)	Crimson Darter	-	-
		4) <i>Diplacodes trivialis</i> (Rambur, 1842)	Chalky Percher	-	-
		5) <i>Orthetrum pruinatum</i> (Burmeister, 1839)	Crimson-Tailed Marsh Hawk	-	-
		6) <i>Orthetrum sabina</i> (Drury, 1770)	Green Marsh Hawk	-	-
		7) <i>Pantala flavescens</i> (Fabricius, 1798)	Globe Skimmer	-	-
		8) <i>Trithemis aurora</i> (Burmeister, 1839)	Crimson Dropwing	-	-
		9) <i>Trithemis festiva</i> (Rambur, 1842)	Indigo Dropwing	-	-
		10) <i>Trithemis pallidinervis</i> (Kirby, 1889)	Long-legged Marsh Glider	-	-

Appendix 10. Checklist of ants (Class Insecta, Order Hymenoptera) of Satara District, Maharashtra, India as observed between January 2007 and December 2010.

Order	Family	Species Name	Common Name	Red List	IWPA
1) Hymenoptera	1) Formicidae	1) <i>Oecophylla smaragdina</i> Fabricius, 1775	Weaver Ant	-	-
		2) <i>Anoplolepis gracilipes</i> Smith, 1857	Yellow Crazy Ant	-	-
		3) <i>Camponotus compressus</i> (Smith, 1857)	Common Godzilla Ant	-	-
		4) <i>Camponotus irritans</i> (Smith 1857)	Gaint Honey Ant	-	-
		5) <i>Camponotus angusticollis</i> (Jerdon, 1851)	Long-necked Sugar Ant	-	-
		6) <i>Polyrhachis lacteipennis</i> Smith 1858	Common Bullhorn Ant	-	-
		7) <i>Polyrhachis rastellata</i> (Latreille, 1802)	Shiny Four Star Ant	-	-
		8) <i>Camponotus sericeus</i> (Fabricius, 1798)	Golden Backed Ant	-	-
		9) <i>Crematogaster soror</i> Forel, 1902	Black Acrobat Ant	-	-
		10) <i>Cataulacus taprobanae</i> Smith, 1853	Deceptive Serrated Ant	-	-
		11) <i>Crematogaster ransonneti</i> Mayr, 1868	Glossy Slender Acrobat Ant	-	-
		12) <i>Meranoplus bicolor</i> (Guérin-Méneville, 1844)	Silky Shield Ant	-	-
		13) <i>Monomorium pharaonis</i> (Linnaeus, 1758)	Pharaoh Ant	-	-
		14) <i>Myrmicaria brunnea</i> Saunders, 1842	Short-Legged Hunchblack Ant	-	-
		15) <i>Pheidole watsoni</i> Forel, 1902	Spiny Harvester Ant	-	-
		16) <i>Solenopsis geminata</i> (Fabricius, 1804)	Common Red Fire Ant	-	-
		17) <i>Crematogaster subnuda</i> Mayr, 1879	Common Broad Acrobat Ant	-	-
		18) <i>Aphaenogaster beccarii</i> Emery, 1887	Hunchback Ant	-	-
		19) <i>Cerapachys aitkenii</i> Forel, 1900	Red Cannibal Ant	-	-
		20) <i>Pachycondyla luteipes</i> (Mayr, 1862)	Common Grey Huntress Ant	-	-
		21) <i>Dolichoderus affinis</i> Emery, 1889	Finned Dolly Ant	-	-
		22) <i>Tapinoma melanocephalum</i> (Fabricius, 1793)	Odour Ant	-	-
		23) <i>Technomyrmex albipes</i> (Smith, 1861)	White Footed Ghost Ant	-	-
		24) <i>Tetraponera rufonigra</i> (Jerdon, 1851)	Arboreal Bicolored Ant	-	-

Appendix 11. Check list of Centipede (Class Chilopoda) of Satara District, Maharashtra, India as observed between January 2007 and December 2010.

Order	Family	Species Name	Common name	IUCN category	IWL (P) A Schedule
1) Scolopendromorpha	1) Scolopendridae	1) <i>Scolopendra hardwickei</i> Newport, 1844	-	-	-
		2) <i>Scolopendra jangii</i> Khanna & Yadav, 1997	-	-	-
		3) <i>Scolopendra gigantea</i> Linnaeus, 1758	-	-	-
		4) <i>Scolopendra punensis</i> Jangi & Dass, 1984	-	-	-
		5) <i>Cormocephalus denticaudus</i> Jangi & Dass, 1984	-	-	-
		6) <i>Cormocephalus makroestrus</i> (Attems, 1928)	-	-	-
2) Scutigeromorpha	2) Scutigeridae	7) <i>Scutigera coleoptrata</i> (Linnaeus, 1758)	House Centipede	-	-



Hindi Abstract:

सातारा जिल्हा, महाराष्ट्र राज्य हे उत्तर पश्चिम घाट तसेच दग्धवन पठाराचे जैवभौगोलिक क्षेत्र आहे. विविध प्राणी प्रजातीची माहिती ही २००७ ते २०१० दरम्यान जिल्हातील विविध भागांमध्ये अभ्यास करून संकलित केलेली आहे. या अभ्यासामधून जिल्हातील विविध प्राणी प्रजातीच्या नंदी केल्या आहेत. यामध्ये ६७७ प्राणी, १५० वंश तसेच ११ विविध गटांची नांद आहे. एकदरीत सातारा जिल्ह्याला समृद्ध प्राणी विविधता लाभली आहे. या अभ्यासातील ९४ प्राणी हे भारत विस्तारीत असून ३५ प्राणी हे IUCN Red List of Threatened Species नुसार नामशेष होण्याच्या मार्गावर आहेत, तर ३८ प्राणी हे भारतीय बन्यजीव कायदा १९७२ (as amended upto 2013) प्रमाजे विविध परिशिष्टामध्ये नमूद आहेत. याचबरोबर सातारा जिल्ह्यामध्ये आढळणारे सर्सन प्राण्यांचे भौगोलिक विस्तारही नमूद केला आहे.



OPEN ACCESS



All articles published in the Journal of Threatened Taxa are registered under Creative Commons Attribution 4.0 International License unless otherwise mentioned. JoTT allows unrestricted use of articles in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

November 2016 | Vol. 8 | No. 13 | Pages: 9505–9596

Date of Publication: 26 November 2016 (Online & Print)

DOI: 10.11609/jott.2016.8.13.9505-9596

www.threatenedtaxa.org

Communications

Preventing Philippine Eagle hunting: what are we missing?

-- Jayson Ibañez, Anna Mae Sumaya, Giovanne Tampos & Dennis Salvador, Pp. 9505–9511

A comparison of the effectiveness of methods of deterring pteropodid bats from feeding on commercial fruit in Madagascar

-- Tatamo E.A. Raharimihaja, Jo L.M. Rakotoarison, Paul A. Racey & Radosoa A. Andrianaivoarivelo, Pp. 9512–9524

Seasonal variations in food plant preferences of reintroduced Rhinos *Rhinoceros unicornis* (Mammalia: Perrissodactyla: Rhinocerotidae) in Manas National Park, Assam, India

-- Deba Kumar Dutta, Pranab Jyoti Bora, Rita Mahanta, Amit Sharma & Anindya Swargowari, Pp. 9525–9536

Faunal diversity of Satara District, Maharashtra, India

-- Amit Sayyed, Pp. 9537–9561

Short Communications

Dipcadi Krishnadevarayae (Asparagaceae), a new plant species from Andhra Pradesh, India

-- Boyina Ravi Prasad Rao, Kothareddy Prasad, Dasari Veeranjaneyulu, Mudavath Chennakesavulu Naik, Sugali Salamma & Angajala Narayanaswamy, Pp. 9562–9567

Records of *Cigaritis zhengweilie* Huang, 1998 (Lepidoptera: Theclinae) from Arunachal Pradesh, India and southeastern Tibet, China, and a note on *Cigaritis elwesi* (Evans, [1925])

-- Purnendu Roy, Pp. 9568–9573

The status of the Brahminy Starling *Sturnia pagodarum* (Gmelin, 1789) (Aves: Passeriformes: Sturnidae) in Southeast Asia

-- Soe Naing, Naw Lah Pwai Paw, Beatrix Lanzinger, Pipat Soisook, Malcolm J. Pearch & Paul J.J. Bates, Pp. 9574–9578

Foraging of the Indian Short-nosed Fruit Bat *Cynopterus sphinx* on banana in shops and on the pieces dropped by monkeys at a temple

-- A. Rathinakumar, S. Baskaran & G. Marimuthu, Pp. 9579–9583

Notes

Composite aster *Inula* L. (Asteraceae): a new generic record for Nicobar Islands, India

-- Rathinam Sathyaseelan, Johny Kumar Tagore & Sebastian Soosairaj, Pp. 9584–9585

Extended distribution of *Dipcadi concanense* (Dalzell) Baker - a highly threatened plant taxon of the family Asparagaceae

-- Anup S. Deshpande, Amit Mirgal, S. Krishnan, Satish Narkhede & Malapti K. Janarthanam, Pp. 9586–9588

Range extension of *Lyriothemis defonskai* van der Poorten, 2009 (Anisoptera: Libellulidae), an endemic odonate in Sri Lanka

-- Amila P. Sumanapala & Nuwan C. Jayawardana, Pp. 9589–9591

An occurrence of the rare Sharptail Mola *Masturus lanceolatus* (Lienard, 1840) (Tetraodontiformes: Molidae), in the coastal waters of Visakhapatnam, India

-- Muddula Krishna Naranji, Velamala Govinda Rao & Devara Venu, Pp. 9592–9594

Parasitization of a huntsman spider (Arachnida: Araneae: Sparassidae: *Heteropoda venatoria*) by a mermithid nematode (Nematoda: Mermithidae)

-- Sachin P. Ranade & Vibhu Prakash, Pp. 9595–9596