International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2015): 78.96 | Impact Factor (2015): 6.391

Study of Diversity of Saurian Fauna in Karad Tehsil, District Satara (M.S.), Western India

Dr. S. B. Kengar

Department of Zoology Yashwantrao Chavan College of Science, Karad

Abstract: ***The present study of diversity of saurian was carried out in karad tehsil, district Satara, Maharashtra during January 2016 to January 2017 in selected area. The study revealed the presence of 16 species of saurian which belong to 5 different families. Selected study area covers major habitats of saurians as marshes, rocky and barren area, farm lands especially sugarcane fields, Sahyadri hilly area, Karad town and nearby villages. Observed data analysis gives insight on present situation of ecological and environmental health of area.***

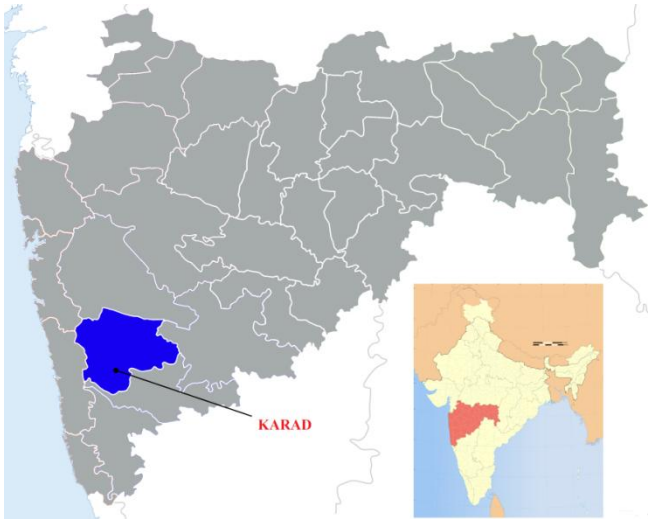
Keywords: Diversity, Saurian, lizards, Karad

1. Introduction

Study of diversity of reptiles has been emphasized many aspects of ecology, food web, pest management and ecosystem maintenance. Humans have directly and indirectly disturbed most habitats resulting in gradual loss of biodiversity and other profound ecological changes. Overload of anthropogenic activities, continued habitat loss and drastic climate change is being recognized as one of the greatest threats to future biodiversity. Saurian diversity is also under the threat of same causes as well. The world reptile database has reported 9,547 species of reptiles in the world. Most of their 96.3% diversity is concentrated in squamates. In squamates, 59% are lizards followed by 35% snakes, and 2% amphisbaenians (Gray, 1844) or widely known as worm lizards, Turtles (3.4%), crocodilians (0.3%), and tuataras (0.01%) are far less diverse.

2. Material and Methods

Study area: Karad is located at 17.28°N 74.2°E. It has an average elevation of 566 metres (1856 feet). Karad is located near Agashiva hills 17.237506°N 74.15205°E. Almost annual weather is suitable for growth and reproduction of saurians.West part of tehsil is under the high mansoon belt and recognized as part of western ghat, one of the hotspot in India. But Northern east part of tehsil is dry and semi arid area. This is a uniqueness of Satara district and karad tehsil.Average rainfall for last five years is 632.1mm (Hydromet division, India Meteorological department).Major Crop are rice,jwari,Wheat,Maize and well known belt of sugarcane.



Sampling: Visual encounter method(Doan, 2003) was used for sampling depending upon climatic conditions during day and night. Randomized walking (Whitakar, 2006) method also employed. All the possible macro and microhabitats were checked using safety measure. Species were identified by referring taxonomic keys and various books and literatures (Gunther, 1864; Boulengre,1890; Smith,1931,1935a,1935b,1943; Dutta,1997; Bossuyt, 2002; Daniels, 2002; Whitakar and Captain, 2008; Ahmed, Das and Dutta, 2009; Aengals et.al.2012;).

3. Results and Discussion

Family	Scientific name	Common Name	No.of individuals	Habitat	Local Status	IUCN Status
Agamidae	Calotes versicolor (Daudin,1803)	Commom garden lizard	66	Ar,Tr,SR	A	LC
	Calotes rouxii (Dumeril and Bibron,1844)	Indian forest lizards	14	Ar,Tr,SR	C	NT
	Sitana pointiceriana (Cuvier, 1829)	Fan throated lizard	03	Ar,Tr,SR	R	LC
	Psammophilus blanfordanus (Stoliczka, 1871)	Blanford's rock agama	08	Ar,SR	O	LC
Chamaeleonidae	*Chamaeleo zeylanicus* (Stoliczka, 1872)	Indian Chamaeleon	12	Ar,Tr	O	NE
Gekkonidae	*Hemidactylus brookii* (Gray, 1930)	Brook's house gecko	35	Ar,Tr,SR	C	LC
	Hemidactylus frenatus (Dumeril and Bibron, 1844)	Asian house gecko	15	Ar,Tr,SR	C	LC
	Hemidactylus leschenaultia Dumeril and Bibron, 1844)	Common bark gecko	31	Ar,Tr,SR	C	LC
	Hemidactylus flaviviridis (Murray, 1886)	Yellow-green House	56	Ar,Tr,SR	A	LC

		Gecko				
	Hemidactylus triedrus (Daudin, 1802)	Termite hill gecko	10	Tr,SR	O	NT
Scincidae	*Eutropis carinata* (Schneider, 1801)	Golden Skink	14	Tr,SR	C	NT
	Eutropis macularia (Blyth, 1853)	Common Skink	17	Tr,SR	C	LC
	Eutropis trivittata (Hardwicke & Gray,1827)	Indian Three banded	9	Tr,SR	R	LC
	Lygosoma lineata (Gray,1839)	Lined Supple skink	11	Tr,SR	R	LC
	Lygosoma punctatus (Gmelin, 1799)	Spotted supple skink	18	Tr,SR	O	NT
Varanidae	*Varanus bengalensis* (Daudin, 1803)	Common Indian monitor lizard	18	Ar,Tr,SR,Aq	C	LC

Abbreviations used in the Table
Local Status: - A-Abundant, C-Common, U-Uncommon-Occasional and R-Rare.
Habitat: - Ar- Arboreal, Tr- Terrestrial, SR-Stony & Rocky, and Aq-Aquatic.

Total 16 different species and 5 different families were encountered in this study. Near threatened species of family scincidae was a notable finding. Most of these member as *Lygosoma punctatus* and *Eutropis carinata* observed in early winter and early summer seasons as month of October to December and February to March of study time.

There is a correlation between seasonal change mainly transitional period of season, food availability and breeding. Most of the habitats are under tremendous disturbance due to urbanization and development of non-agriculture lands. This will be the measure cause for species abundance and its richness in future.(Joshi P.S., Tantarpale V.T.,2016)

Outbreak of Family Chamaeleonidae was observed in month of March to April in study time but average occurrence of this species is occasional.

Family Gekkonidae shows various diversity in given study area and local status with respect to seasonal change.

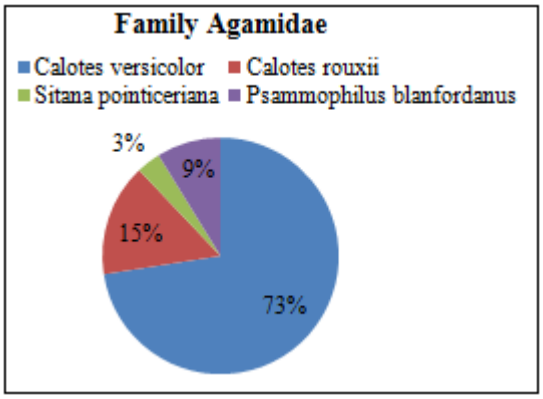


Figure 1: Family Agamidae percentage in study area

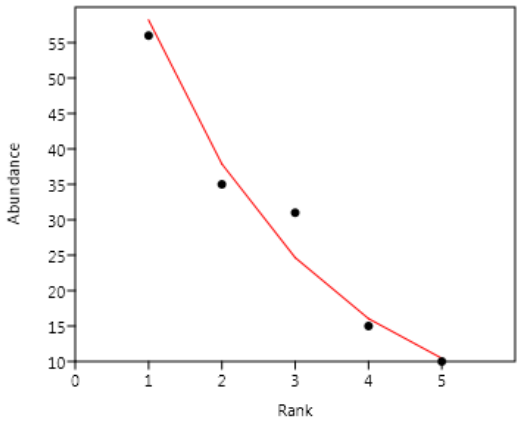


Figure 2: Abundance distribution model of Family Gekkonidae

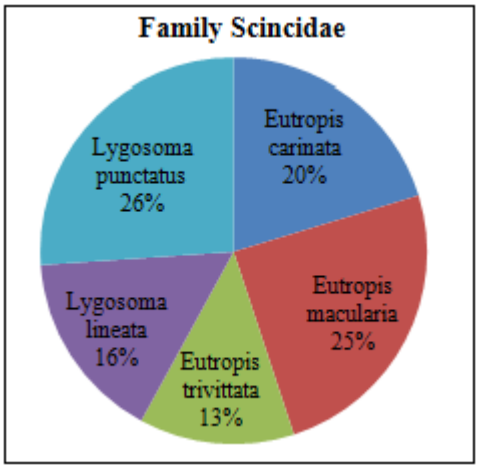


Figure 3: Family Scincidae percentage in study area

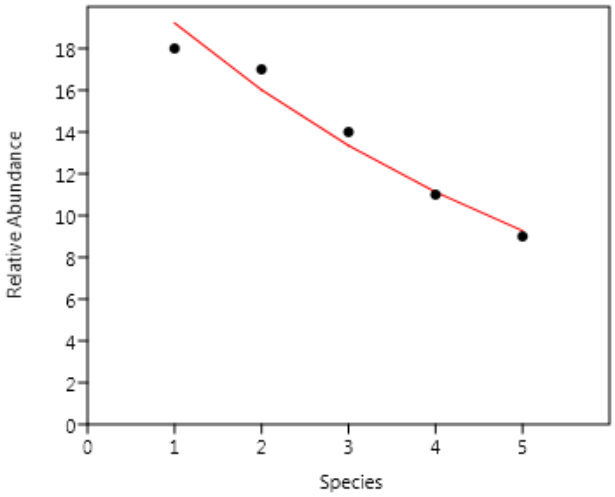


Figure 4: Relative abundance of Family Scincidae
Where k = 0.1665 ; Chi^2 = 0.1786 ; p(same) = 0.98

References

[1] Ahmed MF, Das A, Dutta SK. (2009) Amphibians and reptiles of Northeast Indiada photographic guide. Guwahati, India: Aaranyak. pp. 1-197.
[2] Boulenger GA (1890) The fauna of British India includes Ceylon and Burma: Reptilia and Batrachia, London, viii+541pp
[3] C. Srinivsaulu, B. Srinivasulu and S. Molur (Compilers) (2014). The Status and Distribution of Reptiles in the Western Ghats, India. Conservation Assessment and Management Plan (CAMP). Wildlife Information Laision Development Society, Coimbatore, Tamil Nadu.
[4] Daniel JC. (2002). The book of Indian reptiles and amphibians. Mumbai, India: Bombay Natural History Society. Oxford University Press. pp. 1-238.
[5] Das I. (2002). A photogragphic guide to snakes and other reptiles of India. Chatswood NSW, Australia: New Holland Publishers (UK) Ltd. pp. 1-144.
[6] Doan TM. 2003. Which Methods are most Effective for Surveying Rain Forest Herpetofauna? Journal of Herpetology 37:72-81.
[7] Gunther CLC and Albert (1864) The Reptiles of British India .Published by Oxford & IBH Publishing Co. New Delhi. 452pp.
[8] Joshi P.S., Tantarpale V.T. (2016)Diversity of Saurian fauna in the Buldhana district, Maharashtra, India Journal of Asia-Pacific Biodiversity 9 :306-311
[9] Smith MA. 1935 “The Fauna of British India, Including Ceylon and Burma”, Reptilia and Amphibia, Vol. II. Sauria. London: Taylor and Francis. pp. 1-185.
[10] Smith MA (1931) The Fauna of British India including Ceylon and Burma.Vol. I. Loricata Testudines. Taylor and Francis, London, 185pp+2 plates.
[11] Smith MA (1935a) The Fauna of British India includes Ceylon and Burma. Reptilia and Amphibia. Vol. II Sauria. Taylor and Francis, London, 440 pp + 1 plate.
[12] Smith MA (1935b) Some notes on the monitors. Journal of Bombay Natural History Society 35: 615-619.
[13] Smith MA (1943) The Fauna of British India Ceylon and Burma include the whole of the Indo-Chinese region. Vol. III. Serpentes. Taylor and Francis, London, 583 pp +1 map.
[14] Venugopal PD. (2010). An updated and annotated list of Indian lizards (Reptilia: Sauria) based on a review of distribution records and checklists of Indian reptiles. Journal of Threatened Taxa 2:725-738.