

A Preliminary Systematic study of Spiders of Major Wetlands of Anand-Kheda districts, Gujarat, India

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Abstract

Major wetlands like Pariej and Kanewal are the prime habitats for birds and aquatic fauna but during the primary study of these wetlands forty species of Spiders belonging to twenty six different genera distributed in sixteen different families are enlisted here from these two wetlands of Anand-Kheda districts of Gujarat, out of which four species from three genera are being recorded again after such a long span from Gujarat State.

Keywords: Spiders, pariej, kanewal, wetlands.

Introduction

Spiders are extremely abundant throughout Gujarat State, but very poor attention is given to their taxonomy. After British India, Study has been carried out in the systematic way in spider taxonomy. Forty three families have been recorded from India¹ in Gujarat the study of Order Araneae of the protected areas is very limited. In the year of 2003 the preliminary study carried out at Vansada national park¹. In 2008 he detailed study is carried out and systematic data of spiders are published².

Pariej and Kanewal are the major wetlands in Anand and Kheda district in Gujarat total inland area is 6679 sqkm in which Pariej and Kanewal has unique identity after Nalsrovar- the Ransar

sight. Out of these two Pariej is declared the wetland with national importance where migratory birds make habitats for few months in winter. Forty species of spiders are included in this report which were collected from Pariej and Kanewal of Anand District of Gujarat State during 2012-13 and identified with the help of available data²⁻¹².

Study Area: Pariej 22.55⁰ N and 72.61⁰ E Kanewal 22.20⁰ N and 72.33⁰ E are situated north to Anand, Pariej is belongs to Kheda District where as Kaneval is Anand District. Pariej is situated at the distance of 42 km from Anand and Kanewal is situated 53 km from Anand (figure 1).

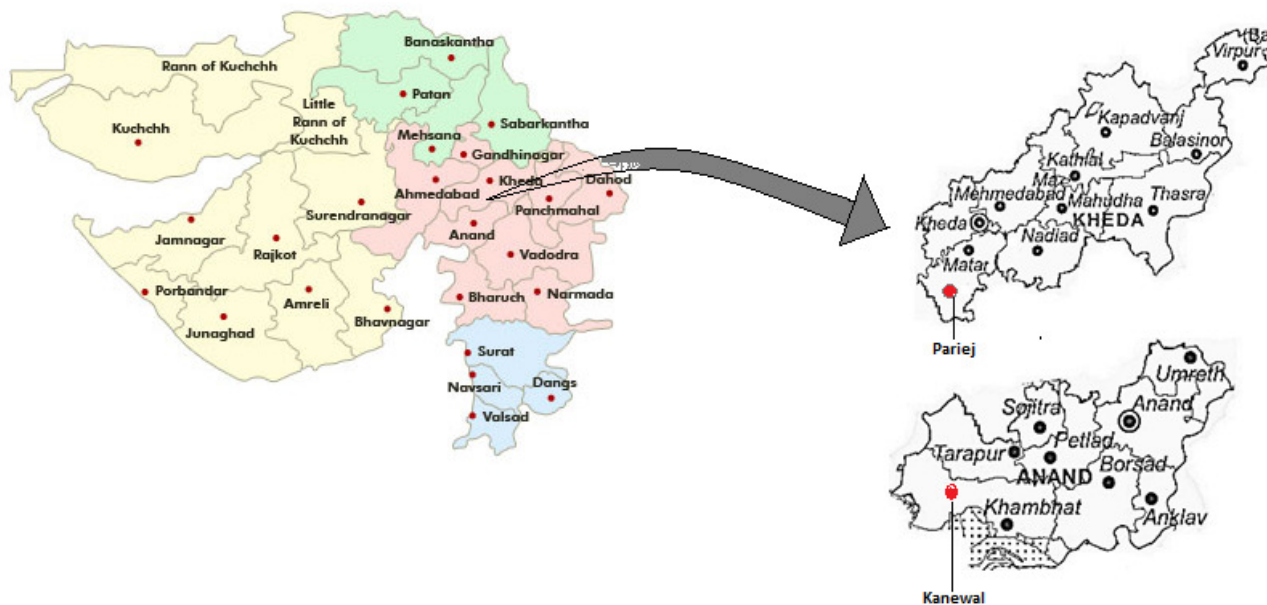


Figure-1
Map of Pariej and Kanewal Wetlands

Table-1

Family	Genus	Species
Argiopidae Dahl 1912	Cyclosa Menge	C. moonduensis Tikader C. spirifera Simon C. hexatuberculata Tikader & Bal C. simony simon
		Araneus Clerck
	Neoscona Simon	N. excelsus Simon N. nautical Koch
	Cyrtophora Simon	C. citricola Forskal C. cicatrosa Stoliczka
Clubionidae Wagner 1888	Castianeira Keyserling	C. zetes Simon C. taenae Patel
Eresidae, Koch 1850	Stegodyphus, Simon	S. Sarasinorum, Karsch
HersiliidaeThorell 1869	Hersilia Audouin	H. sevignyi Lucas
Heteropodidae Pocock 1896	Heteropoda Latreille	H. andamanensis Tikader* H. bhaikakai Patel*
Lycosidae Sundevall 1833	Lycosa Latreille	L. mackenziei Gravely L. poonaensis Tikader
	Pardosa Koch	P. sumatrana Thorell P. Shyamae Tikader
	HippasaSimon	H. pisaurina Pocock H. greenalliae Blackwall
Oecobiidae, Blackwall 1862	Oecobius, Lucas	O. putus, Cambridge.
Oonopidae Simon 1890	Triaeris Simon	T. poonaensis Tikader
Oxyopidae Thorell 1869	Oxyopes Latreille	O. Sunandae Tikader O. shweta Tikader O. sitae Tikader
	Peucetia Thorell	P. latikae Tikader
Pholcidae Koch 1850	PholcusWalckenaer	P. phalangioides Fuesslin
	CrossoprizaSimon	C. lyoni Blackwall
Selenopidae Cambridge 1900	SelenopesLatreille	S. sumitrae Patel*

Salticidae Blackwall 1841	Phidippus Koch	P.bengalensis Tikader
	Myrinarachne Mac Leay	M. bengalensis Tikader
	Marpissa Koch	M. mandali Tikader M. dhakuriensis Tikader
	Plexippus Koch	P. paykulli V. Audouin
Scytodidae, Blackwall 1852	Scytodes, Latreillae	S. thoracica, Latreillae
Theridiidae Sundevall 1833	Argyrodes Simon	A. cyrtophore Tikader
Thomisidae Sundevall 1833	Xysticus Koch	X. minutusTikader*
Uloboridae, Cambridge 1871	Uloboru, Latreille	U. danolius, Tikader U. Khasiensis, Tikader

*are observed after a long span

Methodology

For collection of spiders from various habitats different methods were employed. Dead leaves hay, straw and other detritus were shifted and searched, the stones and logs, were move carefully and the spiders were searched. The spiders found were taken into the plastic tubes (5.5 x 2.3 cms. And 4.0 x 3.7 cms) and kept each one in separate tubes. The grasses were also searched in the same manner as above. The other small plants, bushes, and low trees were jerked with the stick into an inverted umbrella from where the specimens were transferred to the tubes. Sometimes the spiders were hanging with the silken thread and trying to go up. Such specimen were directly taken up into the tubes or picked up into the hand and then carefully transferred into the tubes. Spiders moving on the walls or ground or on vegetation are directly collated into the tubes and stoppered.

In the open fields and grass lands pit fall trap method was also employed. The plastic bowls of 9.0 cms diameter and 10.0 cms depth were kept in the pits at the ground level with the bottom of the bowl filled with ethylineglycole. The traps were kept at different places and the trapped specimens of spiders were collected after 24 hours each time. The sweeping method was also used to collect spiders from the grasses and low growing bushes. A thick medium cloth conical net (50 cms long) was used for this purpose. The frame of 22.5 cms diameter and 25 cms long handle of sweeping net was made from a thick 2 mm diameter galvanized wire.

As stated above, the collected spiders were kept alive, one in each tube separately, as most of the species are by nature cannibals. As soon as the collections were over, the spiders were

sacrificed and preserved in 70% ethyl alcohol, in glass tubes. Most of the spiders get contracted while killing in ethyl alcohol. It is rather difficult to examine different characters like epigyne, male palps, sternum, labium, mandibles, calamistrum, etc. in such contracted specimen. So, palps and legs set out with the help of niddles on a blotting paper, till they harden but not dried, and then were placed back in 70% ethyl alcohol in glass tubes, with proper labeling or locality, date of collection, probable family and other notes of importance.

The detailed examination for identification of spiders, a stereoscopic microscopic-model "Technival" (Carl Zeiss, Jena, Germany) with eye pieces 10X, and 25X, and objectives of 0.6X, 1.0X, 1.6X, 2.5X and 4 X magnifications was used. During the examination, the specimens were kept immersed in 70% ethylalcohol, in glass cavity blocks of 5.4 X 5.4 cms., and 4.0 X 4.0 cms. sizes, with some cleared whitegray sand at the bottom to support the specimens in a desired position. A table lamp with 60 watt bulb was used to illuminate the specimens during the observations. Identified spiders were separately preserved in 70% ethyl alcohol with the label of locality, date of collection, family, genus and species, number of male and female, with other notes of importance if any an the collector's name. spare specimens of these identified species were kept separately in other tube or tubes with the same label.

Results and Discussion

Pariej and Kanewal provide diverse habitat to various spiders' species. The study revealed the occurrence of forty species belonging to twenty six genera and sixteen different families of spider (table 1), out of them four *Heteropodaandamanensis* (Tikader), *Heteropodabhaikakai* (Patel), *Selenopessumutrae* (Patel) and *Xycticusminutus* (Tikader) are observed after a long span out of Gujarat.

Argiopidae Dahl 1912, Lycosidae Sundevall 1833 and Salticidae Blackwall 1841 families are found most abundant whereas Eresidae, Koch 1850, HersiliidaeThorell 1869, Oecobiidae, Blackwall 1862, Oonopidae Simon 1890, Scytodidae, Blackwall 1852, Selenopidae Cambridge 1900, Theridiidae Sundevall 1833 and Thomisidae Sundevall 1833 are found single species in each family with single genus.

Conclusion

During preliminary study of these two wetlands sixteen family, twenty six Genera and forty species are observed in which *Heteropodaandamanensis* (Tikader), *Heteropodabhaikakai* (Patel), *Selenopessumutrae* (Patel) and *Xycticusminutus* (Tikader) are observed after a long span out of Gujarat.

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