

TAXONOMY AND ZOO-GEOGRAPHY OF A TROCHANTERIED CRAB-SPIDER *PLATOR INDICUS* SIMON, 1880 FROM DARJEELING HILLS, A NEW DISTRIBUTION OF SPIDER FROM WEST BENGAL

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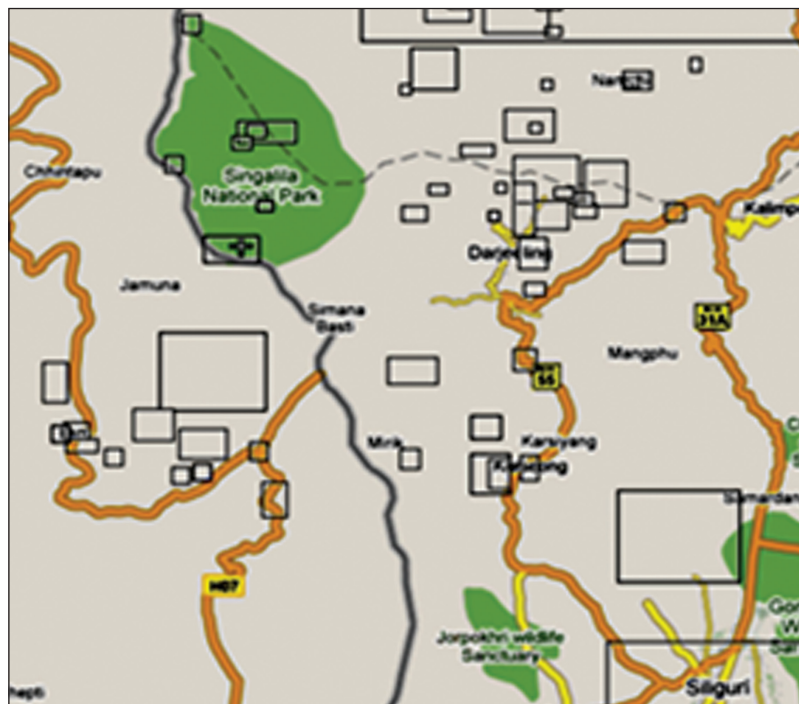
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INTRODUCTION

Spider fauna of Darjeeling has not yet been studied in a comprehensive manner. Although there are several published papers on the spiders on Darjeeling (Pocock, 1900 & 1901; Simon 1897; 1906; Gravely 1931; Sinha 1951; Tikader 1970; Tikader 1980 & 1982; Biswas & Biswas 1992), but so far as the spider fauna of Darjeeling is concerned, the published information indeed lacking compilation and comparative descriptions altogether to visualize the abundance and diversity of this fauna in the diverse mountain habitats of

Darjeeling hills or even from the adjacent mountain state Sikkim (Tikader, B.K. 1966). In their account there is no mention of the Flat crab spider *Plator indicus* Simon 1897 from West Bengal. In recent years the author had covered these hill areas in different seasons in search of the spider habitats and their behaviors along with the faunal diversity as an approach to prepare a spider inventory from this precious environment towards the goal of conservation. During that period the author came across some 10-16 mm Flat crab spider *Plator indicus* Simon 1897 belonging to the family Trochanteriidae Kirsch, 1879.

HYBRID MAP SATELLITE MAP OF SINGHALINA NATIONAL PARK





IMPORTANCE OF THE WORK

As this spider have never been collected or reported from this state proved to be significant towards the zoo-geographical point of view.

Identification of their habitat in that particular mountain ecosystem from which it has been first time recorded in this state also noteworthy.

Description and taxonomic record of this spider species highlighted in this paper for future data base and use.

Occurrence of this spider is significant from the viewpoint of *biodiversity* and distributional pattern as hither to unrecorded from the same habitat of this geographical area.

Socio-Economic importance and possibilities as a bio-medicinal resource for exploitation enlighten the importance of conservation of this Biodiversity.

SYNONYMS

1897. *Plator indicus* Simon: As per reference Silwal, M. and Molur, S. 2006. *Zoos's Print Journal*, **22**(2): 2551-2597.

1899. *Plator ixodinus* Pocock, *J.B.N.H.S.*: **12**: 744-75.

1900. *Plator indicus* Pocock: Fauna of British India, Arachnida 1-279.

SYSTEMATIC POSITION

Taxonomic Division	Nomenclature
DOMAIN	Eukaryota
KINGDOM	Animalia
SUBKINGDOM	Bilateria
BRANCH	Protostomia
INFRAKINGDOM	Ecdysozoa
SUPERPHYLUM	Panarthropoda
PHYLUM	Arthropoda
SUBPHYLUM	Arachnomorpha
SUPERCLASS	Chelicerata
EPICLASS	Euchelicerata
CLASS	Arachnida
SUBCLASS	Micrura
ORDER	Araneae
SUBORDER	Opisthothelae
INFRAORDER	Araneomorphae
SUPERFAMILY	Gnaphosoidea
FAMILY	Trochanteriidae
GENUS	<i>Plator</i>
SPECIES	<i>indicus</i>

Common Name: Flat Crab Spider or Trochanterid Crab Spider.

DIAGNOSTIC CHARACTERS

Body is very flat, legs completely laterigrade. Head narrow, Cephalothorax is wide and semicircular, cephalic region flattened. Carapace much wider than long. Widely separated anterior spinnerets, obliquely depressed endings, and flattened, irregularly shaped posterior median eyes. Mandibles weakly armed, labium longer than wide, Maxilla directed obliquely inwards. Sternum much wider than long. First legs shorter than the rest, 2nd legs longest, no scapulae or ungula tufts. Anterior legs armed with erect spiniform bristles, tarsal claws true and toothed Eyes in three rows , both rows are poorly recurved. Posterior row of eyes slightly longer than the anterior row. Lateral eyes are larger than anterior and posteriors eyes.

MATERIALS and METHOD

The Study Area: The present work was initiated from Mirik is located at 26.9° N 88.17° E. It has an average elevation of 1495 meters (4904 feet), the youngest hill station of India, is built around a 1.25 km long natural lake. The actual studies ,the field observations have been carried over near Singhalila National Park located at a very high altitude of more than 7000ft from sea level (between 2400 m to 3650m) is the highest National Park in West Bengal further north and higher altitude to Mirik. It is situated in the extreme north western boundary of Darjeeling District and extends on an area of 78.60 sq. km.

Habitat: In the leaf litters under small boulders and cracks of stones in Bagora hills and from Singhalila National Park, in Darjeeling hills.

Climate: The climate is pleasant all the year round with maximum temperature reaches up to 45 degree C in May while the mean maximum temperature is 30 degree C. Annual range of humidity is between 85-95%.

Materials Studied: Observed 10 Specimens in the field at their original habitat measuring 10-16 mm by S. Talukdar 1 ♀ Singhalila National Park, Dist. Darjeeling, 10.Xii.2008. Coll: P. Svacha (Examined by S. Talukdar, author, ZSI)

DISTRIBUTION

Global Distribution of Spider Family TROCHATERIIDAE



Distribution Before (Green area)



Added with this paper (Yellow)

Plator species live in China, India, Korea and Japan.

Distribution of *Plator indicus* Simon 1897 is India: West Bengal: Darjeeling.

COMPERATIVE ENDEMICITY				
Total		Endemic		
In India	In Darjeeling Hills	In India (EI)	In Darjeeling Hills (ED)	% Over (EI)
005	001	004	001	025.00

DISCUSSION

The spider family Trochanteriidae was established by Simon (1890) as Platoridae for a small group of Asian and South American species characterized by an extremely flattened body and laterigrade legs. Because of the latter character, the group was long thought to be related to the crab spiders, but laterigrade legs seem necessary in any spider so adapted to living under bark or in narrow rock crevices that the dorsoventral height of the body is less than that of the legs. Roewer (1954) and Lehtinen (1967) have thus discounted the laterigrade legs of Trochanterids as an adaptive character, and placed the group in the Gnaphosoidea. This placement seems reasonable as the Trochanterid genera have all three characters (widely separated anterior spinnerets, obliquely

depressed endites, and flattened, irregularly shaped posterior median eyes) by which gnaphosids are generally recognized, and as there are several genera currently placed in the Gnaphosidae that have similarly flattened bodies and laterigrade legs.

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