

FIRST RECORD OF *GALEODES INDICUS* POCOCK, 1900 (ARACHNIDA: SOLIFUGAE: GALEODIDAE) FROM RAJASTHAN, INDIA

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Solifugids are moderately small to large spider-like, nocturnal, cursorial and hunting creatures belonging to the order Solifugae. They are commonly known as wind spiders or sun spiders and are found in arid, semi-arid habitats worldwide (Muma 1966; Wharton 1987; Gajbe 2005). They eat small insects and other arthropods by crushing and chewing with the help of their large jaws (Image 1). Solifugae have a well-developed tracheal system instead of book lungs. They have adhesive organs on the ends of pedipalps (Image 2), called the suctorial organs (Cushing & Castro 2012). The females of the species have fan-shaped organs called malleoli on the ventral surfaces of the hind legs (Image 3).

Solifugae consist of well over 1,116 described species worldwide belonging to 13 families and 144 genera and are generally believed to be the sister group to the Pseudoscorpions (Harvey 2002). There are 201 species belonging to nine genera under the family Galeodidae distributed worldwide, but in India, family Galeodidae is represented by a single genus *Galeodes*

Olivier, 1791 comprising 13 species.

This study was conducted in the arid rangelands of Jaisalmer District in western Rajasthan, India, to assess the diversity of soil micro arthropods in fodder grassland. The geographical position of the site is 26°59'46.7"N & 71°02'16.4"E near Jaisalmer City.

Lasiurus indicus Henrard commonly known as Sewan grass is a bushy, multi branched, perennial desert grass with thin leaf blade and woody rhizome. It is used for pasture and fodder for livestock, mainly grazed by ruminants and is palatable pasture for camels (Bhati & Mruthyunjaya 1983; Mertia et al. 2006). It is the primary grass of extremely arid parts of Jaisalmer, Bikaner and Barmer districts of western Rajasthan (Bhati & Mruthyunjaya 1983). The soil is slightly calcareous, coarse-textured, light-brown and sandy and has a low moisture-retention capacity.

During the regular collection of soil micro arthropods by pitfall trap in *Lasiurus indicus* grassland we came across an interesting specimen of the genus *Galeodes* sp. inside the pitfall along with other soil arthropods on 11 March 2014 at Chandan Village. The dead specimen was examined under a Lawrence & Mayo stereo zoom microscope following Pocock (1900) and photographed using Leica EZ4HD Integrated 3.0 mega pixel CMOS Microscopic Camera and the specimen was deposited at the National Zoological Collection, Zoological Survey of India, Western Regional Centre, Pune, for further analysis. All the measurements are represented in the millimetres.



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***Galeodes indicus* Pocock, 1900 (Images 1–3)**

Material examined: SLF/01, 1ex. (immature), 11.iii.2014, *Lasiurus sindicus* grassland, Chandan Village, Jaisalmer, Rajasthan (26°59'46"N & 71°20'16"E), coll. S. Roy (Table 1).

Distribution: Jaisalmer, Rajasthan (new record), Gwalior (Madhya Pradesh), Bilaspur (Chhattisgarh), Gaya (Bihar), Thane (Maharashtra), Kurnool (Andhra Pradesh).

A distribution map (Fig. 1) for *Galeodes indicus* Pocock, 1900 in India is provided based on the published literature and present record made from Chandan Village, Jaisalmer, Rajasthan.

The collected specimen was identified as a member of family Galeodidae readily distinguished from other members of the order Solifugae by tarsus of palp narrow at base and freely articulated to tibia; stalk of claws hairy.

Diagnosis Female (Image 3): The collected specimen was identified as a female specimen by the presence of stalked, leaf-like chemosensory structures called malleoli or racquet organs on the ventral side of coxae and trochanters of the fourth pair of legs. Head infusate, legs and palpi a tolerably uniform yellowish-brown. Coxae of both palpi clothed with numerous stout hairs; about 15–16 short spines on trochanter of palp; femur of palp armed with seven pairs of long spines; Patella of palp armed below with eight pairs of long-setiform spines, of sub-equal thickness and alternating in length. Tibia similarly armed below with 11 pairs of longer and shorter spines, half of them on each side being very long and setiform, and slightly stouter than others. Tarsi of palpi armed with eight pairs of long hairs. Distal tarsal segment of fourth leg is spined. Blade of external malleolus slightly exceeding the ocular tubercle.

Galeodes indicus Pocock, 1900 is reported for the first time from Rajasthan. Wind scorpions are a little known group in Indian fauna. Pocock (1900) reported three species from central India, namely *Galeodes fatalis* Lichtenstien & Herbst, *G. orientalis* Stoliczka and *G. indicus* Pocock. Pocock (1900) reported *Galeodes indicus* species from Bilaspur, Chhattisgarh, and further described two subspecies, namely *obscurior* from Pimpalner, East Khandesh (Maharashtra) and *australis* from Secunderabad (Telangana). Presently subspecies *obscurior* is synonymized with *Galeodes indicus* (Whittick 1939) and *australis* recognized as a full species (Harvey 2003). Distribution wise *Galeodes indicus* Pocock is reported from various regions of the India namely Gwalior (Madhya Pradesh), Bilaspur (Chhattisgarh), Gaya (Bihar), Thane (Maharashtra) and Kurnool (Andhra Pradesh). The present record of the *Galeodes indicus*

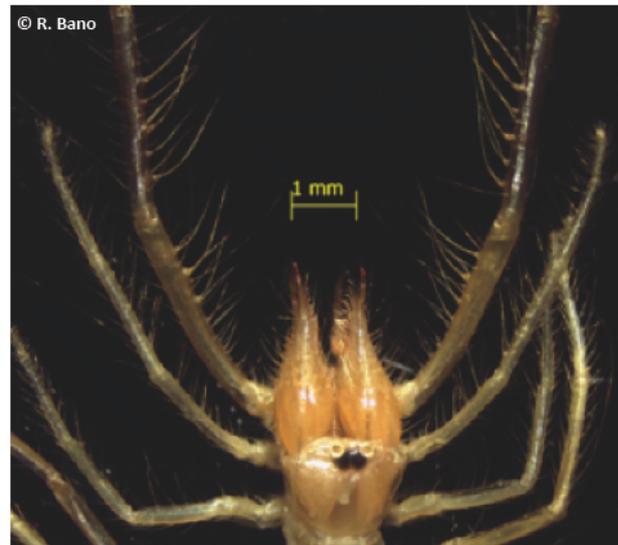


Image 1. Head bearing strong jaws and eyes

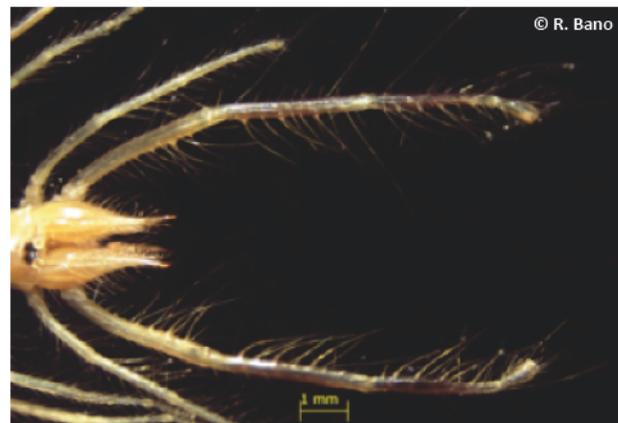


Image 2. A pair of Pedipalp with adhesive organs



Image 3. Fan-shaped Malleoli or Racket organs present on ventral side of fourth legs

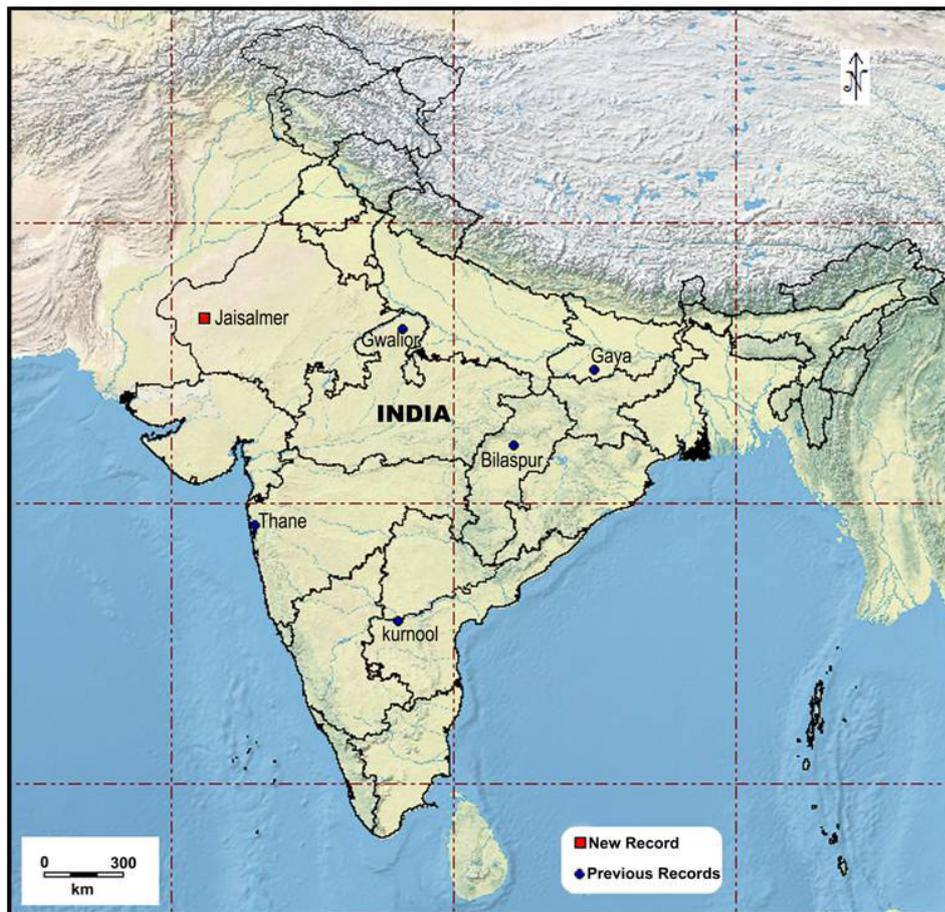


Figure 1. Distribution records of *Galeodes indicus* Pocock, 1900

Table 1. Measurements of body parts in mm

	Total Length	Width of Head	Length of Mandibles	Length of Palpi	Leg I	Leg II	Leg III	Leg IV
Female	10	2	2	12	8	7	9	15

from Chandan Village, Jaisalmer District is the first report of the species from the Rajasthan region.

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