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SCOLOPENDRID CENTIPEDES OF DESERT NATIONAL PARK, RAJASTHAN (CHILOPODA : SCOLOPENDROMORPHA)

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INTRODUCTION

The centipede fauna of Rajasthan has not yet been adequately documented. The reconnoiter of the available literature reveals the occurrence of six species of Scolopendrid centipedes from Rajasthan, namely, *Scolopendra morsitans* Linnaeus (Khanna, 1977a and Jangi and Dass, 1980), *Scolopendra valida* Lucas (Khanna, 1977b), *Scolopendra indiae* (Chamberlin) (= *Trachycephalus indiae* Chamberlin) (Vazirani and Khanna, 1977), *Scolopendra mirabilis* (Porath) (= *Trachycormocephalus mirabilis*) (Khanna 1977a and Jangi and Dass, 1980), *Cormocephalus pygmaeus* Pocock (Vazirani and Khanna, 1976) and *Asanada brevicornis* Meinert (Khanna, unpublished record).

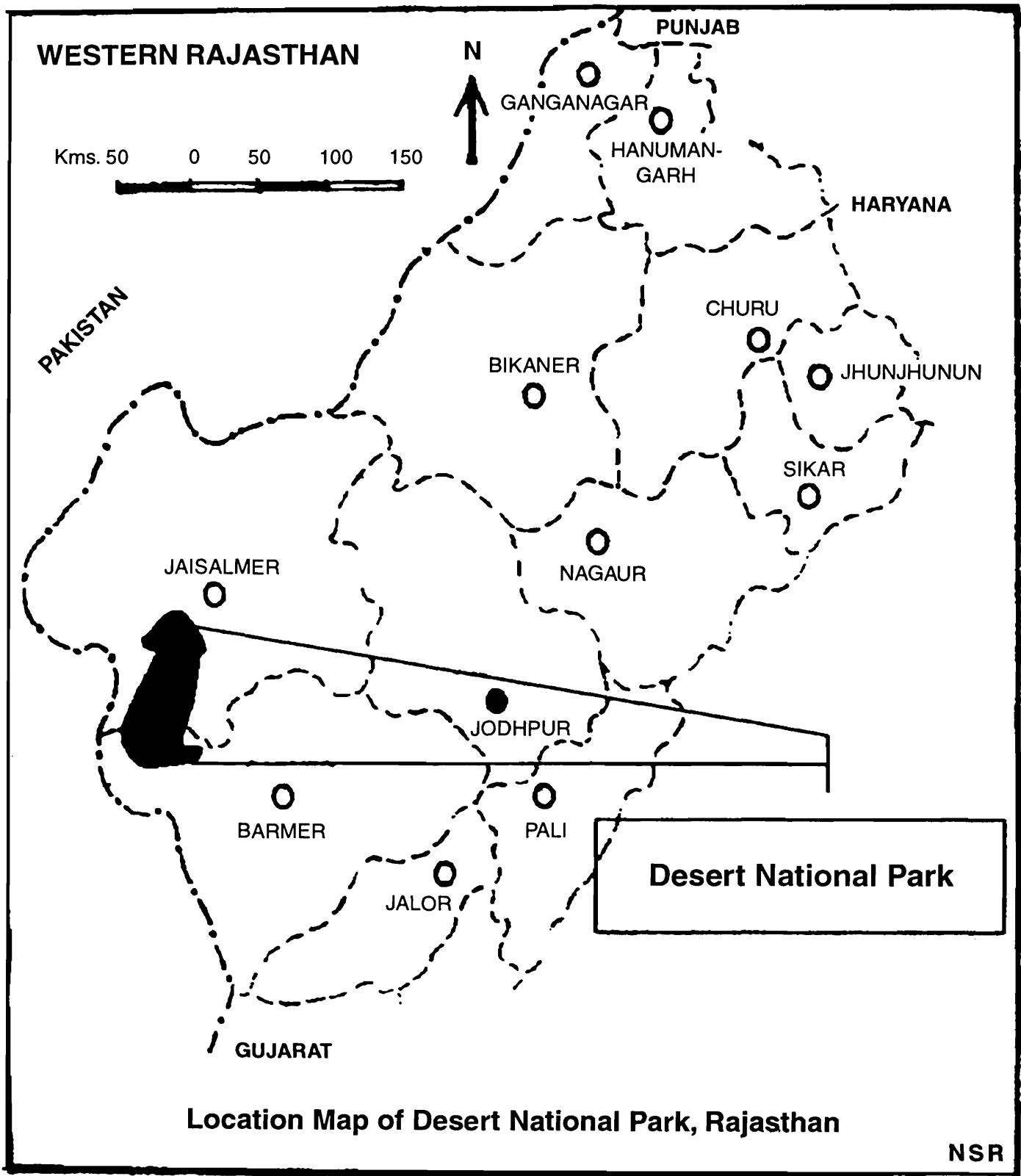
The present studies, based on a small collection of the centipedes of Desert National Park (a proposed Biosphere Reserve), made by the scientists of the Zoological Survey of India, Desert Regional Station, Jodhpur, records following five species, four (*) of which are addition to the known centipede fauna of Rajasthan.

1. *Scolopendra amazonica* Bucherl*
2. *Scolopendra morsitans* Linnaeus
3. *Asanada indica* Jangi and Dass*
4. *Asanada brevicornis* Meinert*
5. *Rhysida nuda immarginata* (Porath)*

Desert National Park : Situated Ca. 45 km NW of Jaisalmer, the Desert National Park, Rajasthan covers an area of about 3162 km², located at 26°-30'54" N and 70°0'55" E, in the main Thar

Desert with an average elevation of about 242 m ASL. The maximum temperature is 50°C and the minimum reaching -4°C. The land is arid with sand dunes and the vegetation is typical arid type.

Barring *Scolopendra mirabilis*, which is of Ethiopian origin, all other species are very well distributed in India and Oriental region (Khanna, 2001).



SYSTEMATIC ACCOUNT

Class CHILOPODA

Order SCOLOPENDROMORPHA

Family SCOLOPENDRIDAE

Subfamily 1. SCOLOPENDRINAE

Tribe 1. SCOLOPENDRINI

1. *Scolopendra amazonica* Bucherl, 1946

1946. *Scolopendra morsitans amazonica* Bucherl, *Mem. Inst. Butantan*, **19** : 135-137.

1968. *Scolopendra amazonica*, Lewis, *J. Linn. Soc.*, **47** : 315-326.

1969. *Scolopendra amazonica* Lewis, *J. Linn. Soc.*, **48** : 49-57.

Type locality : Manaus, Amazona, Brazil.

Material examined : BARMER : Harsani Village, 19.vii.1995, 2 exs, 11.ii.1995, 2 exs.; JAISELMER, Bhopa Village, ca. 31 kms from Jaisalmer, 25.vii.1995, 4 exs.; Pithla area on Khuni Road, ca 28 kms from Jaisalmer, 21.vii.1995, 11 exs., All N. S. Rathore Coll.

Remarks : This species is widely distributed in India especially in Thar Desert and Aravalli ranges upto Delhi and Haryana. The species differs from *Scolopendra morsitans* only in the absence of a tarsal spur on 20th pair of walking legs. The rest of the characters are same. The species occur sympatrically with its sibling *S. morsitans* without hybridization. This is a first record of the species from Rajasthan.

Distribution : INDIA : Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Uttar Pradesh, Uttarnchal, Delhi, Himachal Pradesh and Andaman and Nicobar Islands.

2. *Scolopendra morsitans* Linnaeus

1758. *Scolopendra morsitans* Linnaeus, *Syst. Nat.*, Ed. **10** : 638.

Material examined : JAISELMER, Khuni River, DNP Area, 49 kms from Jaisalmer, 27.vii.1995, 5 exs.; BARMER, Balewa Village, ca. 73 kms from Khuni to Phoolia, 25.ix.1996, 2 exs., All N. S. Rathore Collection.

Remarks : The species occurs in various color forms, shapes and sizes.

Distribution : Widely distributed in India. Cosmopolitan species.

Tribe 2. ASANADINI

3. *Asanada indica* Jangi and Dass, 1984

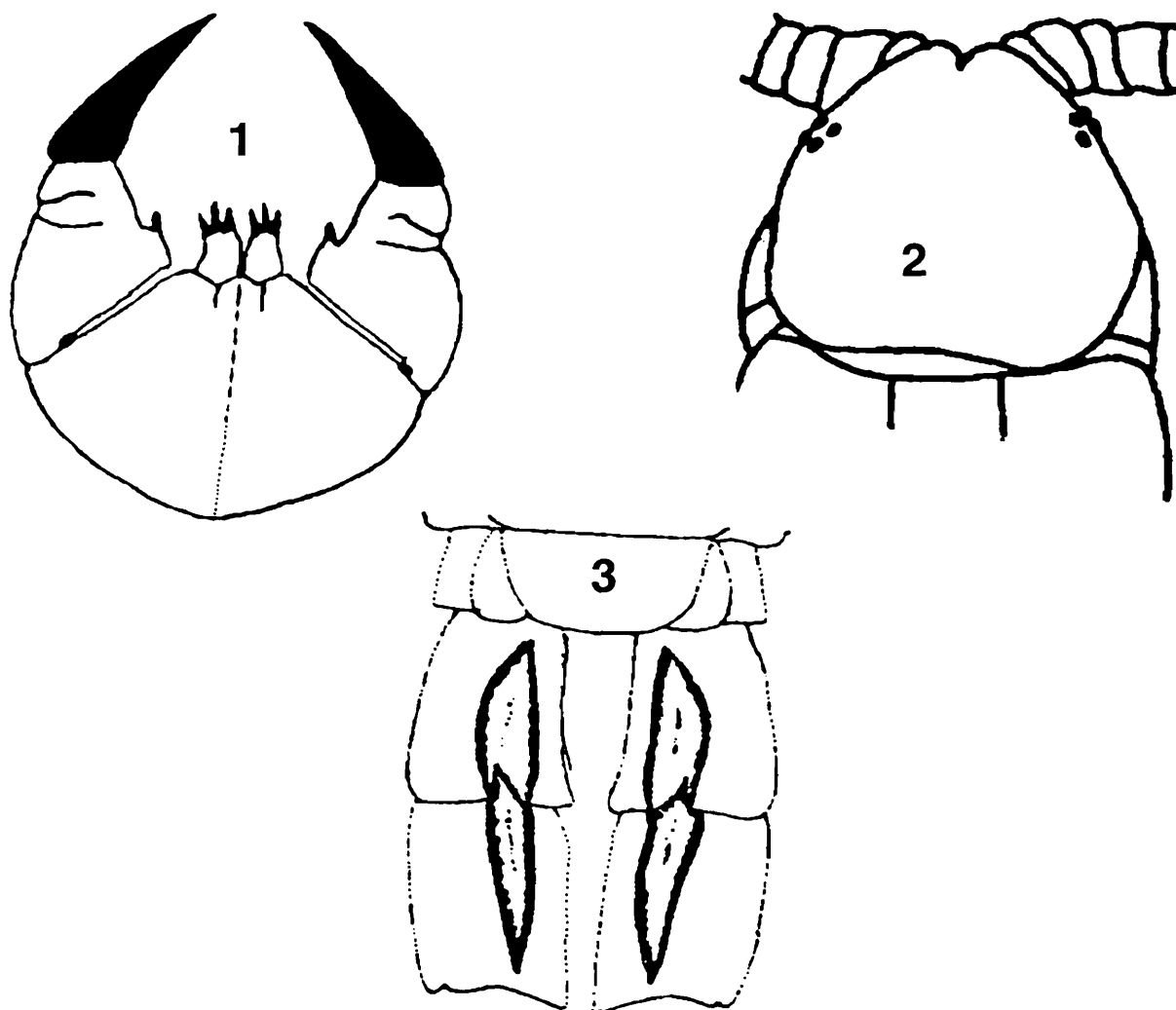
1984. *Asanada indica* Jangi & Dass, *J. Scient. Indl. Res.*, **43** : 38.

Type locality : Urlikanchan, Pune, Maharashtra.

Material examined : JAISELMER, Nahar Singh Ki Dhani, ca. 9 km from Jaisalmer, 6.ii.1995, 2 exs., BARMER, Harsani Village, ca. 85 kms NW of Barmer, 11.ii.1995, 1 ex., All N. S. Rathore Collection.

Remarks : The specimen of this species collected from Uttar Pradesh, Uttaranchal and Delhi shows certain variations in the characters of taxonomic importance as described by Jangi and Dass (1984) and so is the case with the specimen from Desert National Park, Rajasthan and Haryana. These variations are briefly described and illustrated here (Fig. 1-3) to append to the original description and to avoid arising anomaly and undue creation of new taxa.

Tergite up to 20th segment with a pair of paramedian longitudinal furrows represented only anteriorly in 1st, posteriorly in 3rd, absent in 2nd and complete from 4–20th tergal segment. Endsternite with a median notch. Base of the coxosternum with a complete median furrow running all along its length upto 1st sternal segment. Anal leg prefemur and femur also with deep longitudinal and confluent groove. Pretergite visible between cephalic plate and 1st tergal segment.



Figs. 1-3. : 1. Coxosternum; 2. Cephalic plate with 1st Tergite showing Pretergite; 3. Anal leg prefemur and femur with confluent groove.

Remarks : This is a first record of the species from Rajasthan.

Distribution : Rajasthan, Maharashtra, Delhi.

4. *Asanada brevicornis* Meinert, 1886

1886. *Asanada brevicornis* Meinert, *P. Amer. Phil. Soc.*, **23** : 189.

Type locality : Kulu, Himachal Pradesh.

Material examined : JAISELMER, Pithia area, ca. 28 km from Jaiselmer, 24.vii.1995, 4 exs., N. S. Rathore Coll.

Remarks : This is a first record of the species from Rajasthan.

Distribution : Andaman and Nicobar, Maharashtra, Tamil Nadu, Gujarat and Himachal Pradesh.

Subfamily 2. OTOSTIGMINAE

Tribe 3. OTOSTIGMINI

5. *Rhysida nuda immarginata* (Porath), 1876

1876. *Branchiostoma immarginatum*, Porath, *Bih. svenska. Ak.*, **4(7)** : 24.

1910. *Rhysida immarginata* Kraepelin, *Mit. Mus.*, Hamburg, **20** : 143.

Type locality : Manilla, Philippines.

Material examined : BARMER, Turvi, ca. 93 kms NW of Barmer, 20.vii.1995, 2 exs., N. S. Rathore Coll.

Remarks : Since the species described earlier by various authors lack detailed taxonomic description and illustrations, Khanna (1997) redescribed the species with illustrations. It is a first record of the species from Rajasthan.

Distribution : Andaman and Nicobar Islands, Gujarat, Uttar Pradesh, Uttaranchal, Maharashtra, Madhya Pradesh, Himachal Pradesh and Delhi.

**Key to the subfamily, tribes, genera and species of the
Family Scolopendridae from Rajasthan**

1. Spiracle triangular, with its cavity divided into an inner and an outer atrium by a tripartite valve Subfamily : SCOLOPENDRINAE : 2
- Spiracle oval or round with undivided and fully exposed spiracular cavity
..... Subfamily : OTOSTIGMINAE;
Tribe : OTOSTIGMINI
Rhysida nuda immarginata (Porath)

2. Endsternite with coxopleural process, pores and spines Tribe : SCOLOPENDRINI : 3
Endsternite without coxopleural process, pores and spines Tribe : ASANADINI : 8
3. All legs without spurs to the first tarsal segment Genus : *Cormocephalus*
Legs mostly with tarsal spurs Genus : *Scolopendra* : 4
4. Base of the coxosternum with a median furrow below the dental plate and a pair of paramedian furrows with zigzag sutures 5
Base of the coxosternum smooth, without such sutures 6
5. Only endtergite laterally emarginate *Scolopendra indiae*
Tergite between 17–21st emarginate *Scolopendra mirabilis*
6. 1st tergal segment smooth 7
1st tergal segment with a ring furrow *Scolopendra valida*
7. Analleg prefemur, femur and tibia in adult males dorsally flat and marginate, and prefemur of anal legs with 9 spines generally in 3 rows of 3 each; 20th pair of walking legs with a tarsal spur *Scolopendra morsitans*
20th pair of walking legs without tarsal spur *Scolopendra amazonica*
8. Anallegs long and slender, paired longitudinal median sutures may or may not be complete on 20th tergite; 21st tergite and sternite 1–1/2 times as broad as long; longitudinal median groove present posteriorly on anal leg prefemur, femur and tibia *Asanada brevicornis*
Anal leg short and thick. Paired median longitudinal sutures always complete on 20th tergal segment; 21st tergite more than double in width than long; longitudinal median groove present on analleg prefemur and femur almost throughout its length *Asanada indica*

SUMMARY

Five species of Scolopendrid centipedes have been recorded from Desert National Park, four of which are a first record from Rajasthan. With the present studies the number of known species of Scolopendrid centipedes from Rajasthan has been raised to nine with four species as first record from the state.

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