musth twice in a year. Age of occurrence of first musth was 23.94 years, which is in confirmation with the findings of Steel (1889), Evans (1901), Jainudeen *et al.* (1972) and Chandrasekharan *et al*. (1989). Individual elephants continued to exhibit musth behaviour almost throughout the same season. The number of animals coming to musth showed definite peaks during January and August months (post monsoon periods of Kerala) when the atmospheric temperature is low (Eisenberg *et al*., 1971) and stress indicated by THSI is minimum.

The findings obtained in the present investigation about different aspects of musth behaviour and the factors influencing its duration and occurrence can be used effectively for developing strategies for musth management of Asian Elephants.

Acknowledgement

The authors are thankful to the administrators of Guruvayoor Devaswom Board and Dr. Jacob V. Cheeran, Chairman, Elephant Study Centre, KAU for providing facilities for the study.

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NOTE **ZOOS' PRINT JOURNAL 15(9): 327-328**

CENTIPEDES (SCOLOPENDRIDAE) OF COIMBATORE ZOOLOGICAL PARK AREA, ANAIKATTY, WESTERN GHATS

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The Western Ghats, a hotspot of biodiversity has no dearth of centipedes. The centipede diversity in Western Ghats is represented by 42 species, belonging to six families, three tribes and nine genera (Yadav, 1993ab). Their distribution and taxonomy have been studied by Attems (1930). Systematic survey and studies on centipedes have so far been restricted to the Deccan and the Western Ghats of Pune and Maharashtra, (Jangi & Dass, 1984; Yadav, 1993a,b). The present study of centipede is from rain shadow area of Western Ghats of Anaikatty, Coimbatore. This report is a part of the inventory of invertebrate diversity of the Coimbatore Zoo site.

The zoo site is located adjacent to the reserve forest, at 76°45' longitude and 11°06' latitude and at an altitude of 600-700 m. in the rainshadow area of the Western Ghats. The area is a catchment zone bordered by hill slopes (of 90-125 m. tall) on three sides and the Kodungarai River in the west. The vegetation type here could be described as dry deciduous scrub (an interphase of dry deciduous and thorn forests). Annual rainfall ranges from 1000-1200 mm, maximum during the northeast monsoon between September and November.

Intensive surveys and specimen collection for species identification were carried out during January to December 1997. This yielded seven species of centipedes (Table 1). The microhabitat of all the centipedes is the wet sandy/moist area, under stones and leaf litters. Centipede occurrence was high during the monsoons and post monsoon season (September to December). *Scolopendra amazonica*, *Rhysida nuda subnuda* and *Otostigmus politus* were the most common centipedes recorded during the study period. The *Scolopendra hardwickei*, which is reportedly an uncommon species in this area (Jangi & Dass, 1984), was recorded from this region.

From January to April, 13 individuals (11.5%) were recorded. In

Received 15 July 1999 ***Accepted 2 July 2000***

Table 1. Centipede abundance correlated with rainfall (January to December 1997)

No.	Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1	*Scolopendra amazonica* Bucherl.	—	—	—	—	—	3	5	3	2	2	6	3	24
2	*S. morsitans* Linn.	—	—	1	—	—	—	2	—	—	—	—	2	5
3	*S. hardwickei* Newport	—	—	1	—	—	2	1	1	—	1	2	1	9
4	*Asanada sukhensis* Jangi & Dass	—	—	2	—	—	2	1	5	4	3	—	1	18
5	*Otostigmus politus* Karsch.	1	—	—	2	—	3	—	3	4	3	2	6	24
6	*Otostigmus* sp.	—	2	2	—	—	—	1	2	2	2	—	—	11
7	*Rhysidua nuda subnuda* Jangi& Dass	—	2	—	—	—	1	1	2	7	4	3	2	22
Total number of Individuals		1	4	6	2	—	11	11	16	19	15	13	15	113
Rain fall (mm)		—	—	—	—	110	100	479	66	43	697	1052	409	

rainy season from June to December, 100 individuals were recorded. This amounts to 88.5 per cent of the total records which could be due to moist cooler climate and wet soil condition. Another reason could be the blockage in centipede burrows by rain water. However, low rainfall months (August and September) denote the highest number. The Robust centipede *Scolopendra morsitans* Linn, and the Tiger Centipede *S. hardwickei* Newport were found to be less common in the soil of Anaikatty Forest.

Only further studies can throw light on the exact trend in centipede population during different seasons. The practice of removal of topsoil to make brick by the industries in and around Anaikatty is a major threat to the survival of centipedes in this region.

Acknowledgement

B.R. is grateful to the Wildlife Preservation Trust International (WPTI), USA, for the financial support. Thanks are due to the Secretary of Coimbatore Zoo for the facilities provided and to Ms. Sally Walker and B.A. Daniel of Zoo Outreach Organization for encouragement. B.E. Yadav is grateful to the Director of ZSI, Calcutta and to Officer in charge, ZSI, Western Regional Station, Pune.

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NOTE **ZOOS' PRINT JOURNAL 15(9): 328-330**

MALE-MALE AGGRESSION IN *RHINOCEROS UNICORNIS* - AN OBSERVATION FORM NORTH BENGAL, INDIA

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In West Bengal the Great Indian One-horned Rhinoceros (*Rhinoceros unicornis*) is confined to Gorumara National Park (80 sq.km.) and Jaldapara Wildlife Sanctuary (216.5 sq.km.) in a mosaic of various vegetation types (Ghosh, 1991). There are only a few studies on various aspects of rhino ecology and management strategies in this part of the country (Ghosh, 1991; Pandit & Yadav, 1995; WII, 1997). Jaldapara Wildlife Sanctuary has a population of 40 rhinos and Gorumara National Park has 14 rhinos. The population figure shows an increasing trend over the last decade. However, question has been raised over the future of this species in such a small, isolated and fragmented patch of forests (Nandi, 1993; Bist, 1994; Raha & Yadav, 1996).

The present study analyses the aggressive behaviour in male rhinos of Jaldapara Wildlife Sanctuary and Gorumara National Park. Ghosh (1991) described in brief about male dominance relationship in Jaldapara Wildlife Sanctuary and Laurie (1978) studied this aspect in Royal Chitwan National Park in Nepal.

Received 29 March 2000 ***Accepted 28 June 2000***