# A NEW SPECIES OF THE GENUS CYRTARACHNE (ARANEAE: ARANEIDAE) FROM WESTERN GHATS, INDIA

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ABSTRACT: A new species namely *Cyrtarachne keralensis* sp. nov. (Araneidae), is recorded from Western Ghats of Kerala, India. Detailed morphological characters and illustrations of body and copulatory organs of the species are presented.

KEY WORDS: Cyrtarachne keralensis sp. nov., new species, Kerala, India.

The Western Ghats, also known as the Sahyadri Hills, is well known for its rich and unique assemblage of flora and fauna. Norman Myers included the Western Ghats amongst the 25 biodiversity hot-spots identified in the world (Myers et al., 2000). However, the diversity of the invertebrate fauna is poorly studied from these regions.

*Cyrtarachne* is a genus of nocturnal orb weaving spiders common in South Asia, distinguished from other araneids by its shell like abdomen with numerous sigilla on the dorsum. They build large webs with few radii and with visible viscid droplets. 55 species are recorded from the world so far (Platnick, 2010).

The Western Ghats of Kerala is rich in the diversity of spiders and a total of 431 species of spiders (Jose, 2009) are presently recorded from here. Several new species are discovered from here. In the present paper a new species belonging to the genus *Cyrtarachne* (Araneidae) is described and illustrated.

# MATERIALS AND METHODS

The present species were collected during a study on the diversity of spiders in Western Ghats of Kerala. Spiders were collected by methods described by Tikader (1987). Collected spiders were preserved in 70% alcohol; internal genitalia were dissected out with the help of sharp scalpel. After dissection, the epigynum was cleared in 10% KOH or clove oil. It was then studied with the help of Stereomicroscope Leica MS-5. Drawings were made with the aid of a drawing tube. All measurements are in mm taken with an ocular micrometer. Measurements of legs are shown as: femur, patella, tibia, metatarsus, tarsus: Total length.

The type material is preserved in 80% alcohol and deposited in a reference collection housed at the Department of Zoology, Deva Matha College, Kuravilangad, Kottayam, Kerala, India. (Voucher No AR00102).

Abbreviations used are as follows:

AME = Anterior median eyes ALE = Anterior lateral eyes

PME = Posterior median eyes

PLE = Posterior lateral eves

#### **RESULTS**

# Cyrtarachne keralensis sp. nov.

(Fig. 1. a-g)

CEPHALOTHORAX: Yellowish, convex, as long as wide. Clypeus height less than AME diameter. Eyes: Darker, in two rows, anterior row straight, posterior row slightly procurved. Ocular quadrangle longer than wide, slightly wider behind, lateral eyes contiguous, PME larger than AME. Ocular Measurements: PLE - PLE = 0.81, PME - PME = 0.25, AME - AME = 0.20, AME - ALE = 0.12. Eye diameter AME = 0.14, ALE = 0.12, PME = 0.18, PLE = 0.12; Ocular quadrangle = 0.7L & 0.6W. Chelicerae: Yellowish, inner margin with three teeth. Sternum: Dark brownish broadest at coxae I-III, all coxae yellowish brown. Legs: Short moderately strong, clothed with hairs; patella and distal end of femur darker than tibia. Maxillae: Broader, yellowish brown, longer than wide, widest at distal end. Palps: Very short, similar to legs in colour; palpal bulb large, nearly globular. Palpal organs large, complex, with corneous lobes and process.

ABDOMEN: Dorsum convex, leathery, decorated with black and white patches. A white patch on either side of the median black line. The median white patch with three lateral extensions, middle extension longer, and reaches to the lateral ends; the posterior lateral extension from the median patch is followed by a broad median black patch. Ventrum pale, the region between epigyne and spinnerets blackish. Internal genitalia with two longitudinal sperm tubes. Scape longer, bend downwards.

Colour in living specimen: Abdomen blackish decorated with white patches. A 'Y' shaped median white patch, with a narrow mid dorsal black line, the median white patch has three lateral extensions, anterior and median extensions are broader and posterior is shorter and narrower. The carapace greenish or golden yellowish. Legs appear similar to carapace in colour with joints darker or blackish in colour. Males are similar to females in colour and pattern.

Measurements: Total Length: 4L, Cephalothorax: 1.7L; Abdomen: 2.9L, 2.5W.

# Measurements of the leg segments (Female)

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total	
I	1.2	0.5	1.0	1.2	0.5	4.4	
II	1.0	0.3	0.7	0.5	0.5	3.0	
III	1.0	0.5	0.5	0.4	0.4	2.8	
IV	1.3	0.5	0.5	0.8	0.5	3.6	
Palp	0.5	0.5	0.5	0.5	0.5	2.5	

Etymology: Named after the state of Kerala.

**Holotype:** Female: INDIA: Kerala, Ernakulam, Edamalayar, 10°13'18"N, 76°42'21"E, coll. Sunil Jose K., 16.x.2002

Paratypes: 2 Females, 1 Male, Ernakulam, 16.x,2002, Coll. Sunil Jose K.

**Type deposition:** Department of Zoology, Deva Matha College, Kuravilangad, Kerala, India.

Distribution: India: Ernakulam, Edamalayar (KL).

**DIAGNOSIS:** Closely similar to *C. gravelyi* Tikader, 1960 but can be separated by following differences:

- 1. Sigilla present on the abdomen in *C. gravelyi* Tikader, 1960 while sigilla are absent in *C. keralensis* sp. nov.
- Structure of Internal genitalia and epigyne shows difference in both species.
- 3. Inner margin of chelicerae with three teeth in *C. keralensis* sp. nov.

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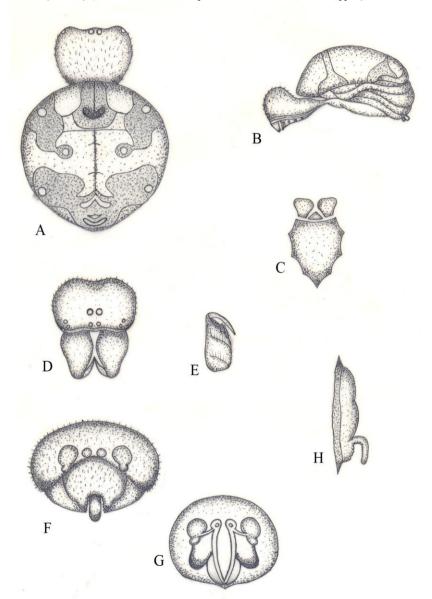


Figure 1. *Cyrtarachne keralensis* sp. nov. (female). A. Dorsal view of female, B. Lateral view of female, C. Sternum and maxilla, D. Frontal view, E. Chelicerae- lateral view, F. Epigyne-Ventral view, G. Epigyne- Dorsal view, H. Epigyne- Lateral view.