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## First report of *Geolycosa charitonovi* (Mcheidze, 1997) (Araneae: Lycosidae) from India

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### Abstract

*Geolycosa* is the genus of wolf spiders erected by Montgomery, 1904, presently represented by 75 species worldwide. These spiders dig burrows and spend their whole existence in burrow and possess the unique burrowing habits. In the present investigation *Geolycosa charitonovi* (Mcheidze, 1997) is being reported for first time in India from mango fields of Latur District (M.S.).

**Keywords:** Spider, *Geolycosa charitonovi*, Latur, India

### 1. Introduction

The family Lycosidae or wolf spiders has 2403 known species belonging to 123 genera that are found worldwide, especially in open habitats <sup>[1]</sup>. In India, the family Lycosidae is represented by 133 species belonging to 19 genera <sup>[2]</sup>. These spiders are known for the unique eye pattern and typical egg sac carrying behavior.

*Geolycosa* is a genus of burrowing wolf spiders <sup>[3]</sup> presently represented by 75 species worldwide <sup>[1]</sup>. *G. carli* and *G. urbana* are the only two species reported from India <sup>[4]</sup>. Later on *Geolycosa urbana* is modified as *Trochosa urbana* <sup>[5]</sup>. *Geolycosa charitonovi* was initially reported as *Alopecosa charitonovi* <sup>[6]</sup>. Subsequently, it was redescribed as *Geolycosa charitonovi* <sup>[7]</sup>. It is commonly found in Russia, Abkhazia, Georgia and Azerbaijan.

### 2. Materials and Methods

This species was collected early in the morning from Mango fields of Bhada village, Ausa Taluka of Latur District, Maharashtra by hand picking. The spider specimen was preserved in 70% ethanol and morphological characters were recorded. All the measurements were taken from the dorsal side and are in mm. Male genital organ pedipalp was dissected and 1% KOH treatment was given to make it transparent to study its internal structures. The specimen is deposited in Zoology Laboratory of School of Life Sciences, Swami Ramanand Teerth Marathwada University, Nanded.

### 3. Result and Discussion

*Geolycosa charitonovi* (Mcheidze, 1997) *Alopecosa charitonovi* Mcheidze, 1997: 217, f. 445-447; *Geolycosa charitonovi* Kovblyuk *et al.*, 2012: 246, f. 1-7, 10, 13, 16-17, 20, 23-26, 28-29, 31-35, 38, 41-42, 44-46

#### 3.1 Description

Total length of the spider is 18.05 mm; cephalothorax is 9.85 mm in length and 7.218 mm in width while abdomen is 8.17 mm in length and 5.17 mm in width. Carapace is dark brown in color with a broad light median band. The abdomen is longer than wide and bright in color dorsally while black in color ventrally. The Sternum is brown; the chelicerae are dark brown in color. The legs are quite long and uniformly brown. Leg formula is 4,1,2,3. 4<sup>th</sup> pair is longest and followed by 1<sup>st</sup> pair while 2<sup>nd</sup> and 3<sup>rd</sup> pairs are short. Measurements of leg segments are given in Table 1. Tibia and cymbium are brown in color. The median apophysis is an elongated blade with a short, sharpened ventral tooth and palpus as in Fig.4-6. Eyes are arranged in three rows, posterior median eye (PME) larger than posterior lateral eye (PLE) measuring about 0.77 mm in diameter while PLE is 0.43 mm in diameter. Anterior median eye (AME) is 0.34 mm in diameter while anterior lateral eye (ALE) is slightly smaller than AME measuring about 0.28 mm in diameter.

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Based on the above description it is evident that the identified species is *Geolycosa charitonovi* (Mcheidze, 1997). We are reporting *Geolycosa charitonovi* (Mcheidze, 1997) for the first time in the mango fields of Latur district (M.S.), India. This species is exclusively found in hollow chambers under stones possibly due to its habitat. Previous studies have indicated that *G. charitonovi* is closely related with *G. vultuosa* and *G. dunini*. It can be easily distinguished from other two species on the basis of shape and pattern of carapace and structure of reproductive organs [7].

**Table 1:** Measurements of leg segments in mm

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	6.47	3.51	10.76	4.94	3.95	29.63
II	6.78	5.00	8.12	2.48	2.70	25.08
III	4.63	3.77	6.42	4.10	3.92	22.84
IV	8.76	2.26	11.03	6.26	4.56	32.87



**Fig 1:** *G. charitonovi* (Mcheidze, 1997) dorsal view



**Fig 2:** *G. charitonovi* (Mcheidze, 1997) ventral view



**Fig 3:** Eye arrangement of *G. charitonovi* (Mcheidze, 1997)



**Fig 4:** Pedipalp retrolateral view



**Fig 5:** Pedipalp proximal view



**Fig 6:** Pedipalp ventral view

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