

**RECORD OF *Araneus viridisomus* Gravely, 1921
(ARANEAE: ARANEIDAE) FROM TAMIL NADU, INDIA**

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ABSTRACT

A new record of an orb web weaving spider, *Araneus viridisomus* Gravely, 1921 is dealt with detailed description and notes on its natural history from Chennai (Madras), South India.

Key words: *Araneus*, Description, South India.

INTRODUCTION

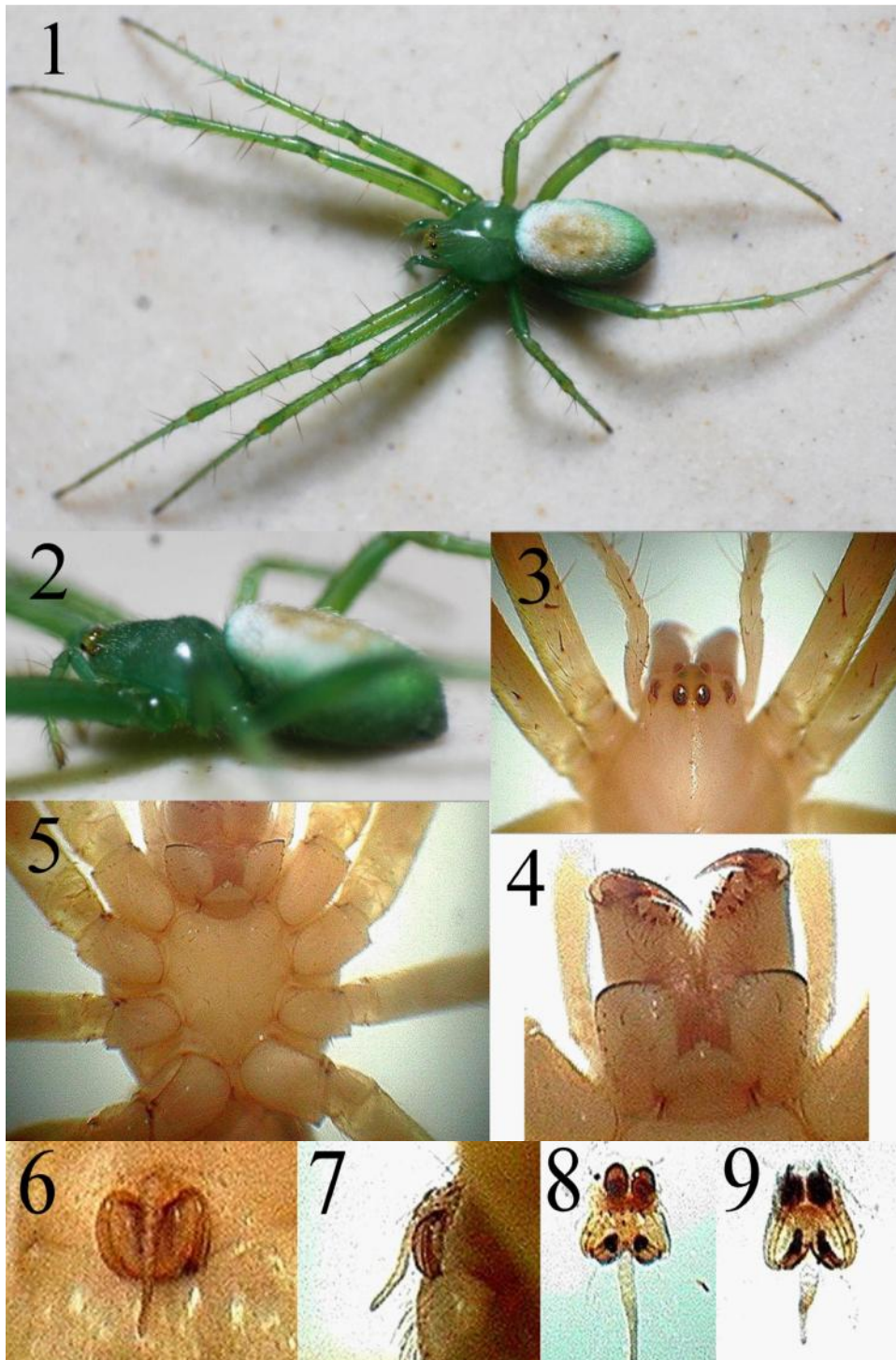
The Araneidae fauna of India is represented by 28 genera and 163 species (Keswani *et al.*, 2012). *Araneus* is a large genus containing numerous species. With the advancements in taxonomical studies, many species have been transferred to newly described genera (Tanikawa, 2001). The genus *Araneus* is currently known by 661 species worldwide (World Spider Catalog, 2014) and 26 species from India (Keswani *et al.*, 2012).

Araneus viridisomus Gravely, 1921 was originally described from Barkuda Island. It is now reported for the first time in Tamil Nadu. There have been no reports of this species after its description by Gravely (1921), this paper is an attempt to report this species for the first time in 93 years. This species is endemic to India (Siliwal *et al.*, 2005).

MATERIALS AND METHODS

Live specimens were photographed using DSLR Nikon D60, 18-55mm (reversed for macro photographs). They were preserved in 70% alcohol and later examined using a Carl Zeiss Stemi-4 stereo-microscope equipped with image processing system. USB digital microscope with micro-measure software was used for making measurements. The female genitalia were excised using surgical blades or sharpened needles. The epigyne was then transferred to petri dish containing KOH 10% solution for clearing. Description is based on fresh specimen. Specimens are deposited in the National Centre for Biological Sciences (NCBS), Bangalore, Karnataka, India. All measurements are in millimeters.

Abbreviations used: ALE = anterior lateral eyes, AME = anterior median eyes, PLE = posterior lateral eyes, PME = posterior median eyes, MOA = median ocular area. AME-AME = Mutual distance between eyes.



Figures, 1-9: *Araneus viridisomus* Gravely

1. Dorsal view of female, 2. Lateral view, 3. Eye arrangement, 4. Labium and endites, 5. Sternum, 6. Epigynal scape, 7. Scape lateral view, 8. Epigyne internal view, 9. Epigyne posterior view



Fig.10-*Araneus viridisomus* in its retreat.

RESULTS

Taxonomy

Araneus viridisomus Gravely, 1921

(Figs. 1-9; Fig.10)

Specimen examined: 1 female, 13.iii.2013, scrub jungle regions, MCC campus, Chennai, India (GPS 12°91' 39.293' N, 80°11' 96.95" E, 32 m), coll. John Caleb T.D (NCBS-QA456); 1 female, 03.xii.2013 (GPS data same) coll. John Caleb T.D (NCBS-QA457). (Type material not examined).

Diagnosis: This species shows resemblance to *Araneus nympa* Simon, 1889, but differs in having a relatively longer wrinkled scape and ducts that run laterally outwards from the copulatory opening to the spermatheca (Figs. 8 & 9)

Description: Female

Total length: 4.80; cephalothorax: 2.03 long, 1.63 wide; abdomen: 2.77 long, 1.67 wide.

Cephalothorax: Greenish, cephalic region little lower than thoracic region, eight eyes arranged in two rows, anterior row recurved, posterior row slightly recurved (Figs. 1 & 3). Eye measurements: AME 0.08, ALE 0.19, PME 0.17, PLE 0.16, AME-AME 0.09; AME-ALE 0.08; PME-PME 0.25; PME-PLE 0.29. MOA 0.351 long, anterior width 0.35, posterior width 0.36. clypeus 0.04, chelicerae greenish with 4 promarginal and 3 retromarginal teeth, labium wider than long, greenish, endites longer than wide, provided with distinct scapulae (Fig. 4), sternum heart shaped, clothed with hairs, greenish uniformly (Fig. 5), legs covered with spines and hairs, Leg measurements: I 9.75 (2.63, 0.84, 2.33, 2.99, 0.96); II 8.66 (2.59, 0.81, 1.88, 2.53, 0.85); III 4.84 (1.54, 0.57, 1.05, 1.06, 0.62); IV 8.13 (2.45, 0.68, 1.94, 2.32, 0.74), leg formula: 1243.

Abdomen: Longer than wide, with 4 pairs of sigilla, dorsum covered with chalk white and pale yellowish, greenish along the borders and ventral part green uniformly. Spinnerets yellowish brown, epigyne placed on a slightly raised sclerotized rim, scape wrinkled, long and tapering downwards (Figs. 6 & 7), copulatory openings start from the base of the epigyne below the scape and ducts run laterally outwards to the medially placed spermathecae, fertilization ducts small (Figs. 8 & 9).

Distribution: Barkuda Island, Orissa, Chennai, Tamil Nadu, India.

Natural History: Found among vegetation at MCC campus. The campus is placed in a 365 acre scrub jungle which is a part of scrub patches lining the coastal regions in and around Chennai. Spiders build an orb web almost at an angle that is horizontally placed. It was found building the webs at dusk. During day time, it stays in a retreat built in a leaf (Fig. 10). Preserved specimens lose their original color and become pale.

REMARKS

Gravely (1921) described this species and originally placed it under the genus *Araneus*. However checklists and catalogues (Siliwal *et al.*, 2005, Siliwal & Molur, 2007, Keswani *et al.*, 2012 and Platnick, 2014) have mentioned that it was transferred from *Epeira*. The name, therefore should be *Araneus viridisomus* Gravely, 1921 (without parentheses); the specific name still has to be masculine to agree with *Araneus* (Platnick, pers.comm). The error has been corrected in the recent version (ver. 15.5) of the World Spider Catalog (2014).

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REFERENCES

- Gravely, F. H. 1921.** The spiders and scorpions of Barkuda Island. Rec. Indian Mus., 22: 399-421.
- Keswani, S.; Hadole, P. and Rajoria, A. 2012.** Checklist of Spiders (Arachnida: Araneae) from India, Indian Journal of Arachnology, 1(1); 1-129.
- Platnick, N.I. 2014.** The World Spider Catalog, Version 15.0. American Museum of Natural history. Online at <http://research.amnh.org/iz/spiders/catalog/INTRO1.html> (Accessed on 03 August 2014).
- Siliwal, M.; Molur, S. and Biswas, B. K. 2005.** Indian Spiders (Arachnida: Araneae): Updated checklist 2005. Zoos' Print J., 20 (10): 1999-2049.
- Siliwal, M. and Molur, S. 2007.** Checklist of spiders (Arachnida: Araneae) of South Asia including the 2006 update of Indian spider checklist. Zoos' Print J., 22(2): 2551-2597.
- Tanikawa, A. 2001.** Twelve new species and one newly recorded species of the spider genus *Araneus* (Araneae: Araneidae) from Japan. Acta Arachnologica, 50: 63-86.
- Tikader, B. K. 1982.** Fauna of India (*Araneae*). 2(1): 1-293.
- World Spider Catalog 2014.** World Spider Catalog. Natural History Museum Bern, online at <http://wsc.nmbe.ch>, version 15.5, accessed on {21.12.2014}.