

Notes on *Hyllus semicupreus* (Simon, 1885) (Salticidae, Plexippina) from India

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ABSTRACT: *Hyllus semicupreus* (Simon, 1885) is called as heavy jumper spider. Observations of this species as non-sexual cannibalism phenomenon on *Nerium oleander* plants is reported. *H. semicupreus* species sample was analysed by DNA barcoding for confirmation. The result was analysed with the other *Hyllus* species followed by NCBI. © 2025 Association for Advancement of Entomology

KEY WORDS: DNA barcoding, food availability, jumping spider, *Nerium oleander*, habitat

The jumping spider genus *Hyllus* Koch, 1846 is represented by 67 species worldwide (WSC, 2024), of which, four species are known from India: *Hyllus bos* (Sundevall, 1833), *H. diardi* (Walckenaer, 1837), *H. pudicus* and *H. semicupreus* (Simon, 1885) (Caleb *et al.*, 2024). *H. semicupreus* was originally described from Guntakal District, Andhra Pradesh, India (Simon, 1885). The species was originally placed in the genus *Thyene* (Simon, 1903) and was later transferred to *Sandalodes* (Prószyński and Tąbka, 1980), before finding its place in *Hyllus* (Prószyński, 1990). Recent observations have shed light on the diverse ecological roles and feeding habits of *H. semicupreus*. Some studies have documented the feeding behavior in a variety of contexts. For instance, nonsexual cannibalism has been observed (Rajashree, 2022), and oophagy, the consumption of eggs, was recorded in this species, predation on coreid bug eggs (Ahmed *et al.*, 2018) and dipteran fly (Ahmed and Satam, 2015), araneophagy, where

H. semicupreus fed on an *Oxyopes* species (Sharma, 2020) and on a social spider (Muralidharan, 2022). Additionally, myrmecophagy, involving the predation of a queen red weaver ant in Odisha, India, was recently reported. The present study focuses on an additional observation of non-sexual cannibalism with new observations on secretions from its abdomen.

The specimen was hand collected and preserved in 70(%) ethanol. Field photographs and video recording were taken with the help of a camera Vivo Y73(64MP+2MP+2MP). The species identity was confirmed with both morphology and DNA analysis by using COI gene. The DNA isolation and DNA barcoding was performed at the Rajiv Gandhi Centre for Biotechnology, Kerala. The obtained sequence was submitted to GenBank. During a routine field survey on 8 December 2023, between 15:10 and 16:12 IST, at RVS College of Arts and Science, Coimbatore, Tamil Nadu

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Fig. 1



Fig. 2



Fig. 3



Fig. 4

Fig. 1 *Hyllus semicupreus* (Simon, 1885) female feeding on another younger female

Fig. 2 Hiding under the leaf.

Fig. 3, 4 Live female with milk-like liquid oozing from both sides of the abdomen, *Hyllus semicupreus* (Simon, 1885).

(11.026988N, 77.1327E), I observed a remarkable instance of predatory behavior in *H. semicupreus* on *Nerium oleander* plants. A female spider was seen feeding on another female of the same species (Figure 1). The feeding female had captured its prey by the front legs and continued to devour it for over an hour.

An intriguing observation was made during this process: a milk-like secretion was noted oozing from the lateral sides of the abdomen of the feeding female (Figure 3 & 4). The exact nature of this secretion is unclear, maybe the secretion came out between the fighting behaviour from male species, and further investigation is required to determine its significance. The feeding behavior was continuously monitored for two hours until the female finished consuming the prey and released the carcass. The feeding female was subsequently collected and sent for DNA barcoding at the Rajiv Gandhi Centre for Biotechnology, Kerala. DNA barcoding done for confirmation. The partial COI gene was successfully amplified, and the sequence has been deposited in GenBank (Accession number: PP338231).

>PP338231.1 *Hyllus semicupreus* isolate Hs1 cytochrome c oxidase subunit I (COX1) gene, partial cds; mitochondrial

GAAGTCTATGAGAGTTTAAATTCGGATAG
AATTGGGTCAGACTGGGAGATTTTAGG
AAATGAACATTTATATAATGTAATTGTT
ACAGCTCATGCATTTGTAATAATTTTTT
TTATAGTAATACCCATTATAATTGGGG
GTTTTGGAAATTGATTAGTTCCATTAATA
TTAGGAGCACCTGATATAGCTTTTCCT
CGAATAAATAATTTGAGATTTTGATTGTTA
CCTCCTTCTTTAATATTATTATTCTTC
TATAGTTGAAATAGGAGTAGG AGCTGGGT
GAAGTGTATATCCTCCTTTGG CATCTATT
GTTGGACATAATGGAAGATCAGTAGA
TTTTGCTATTTTCTTTACATTTGGCTGGTG
CTTCTTCTATTATAGGAGCTATTAAT
TTTATTCTACTATTATTAATATACGTTTCGGTA
GGAATATCAATAGATAAGATTT
CGTTATTTGTTTGATCGGTAATGATT
ACTGCTATTTTATTATTATTGTC
TTTACCTGTATTAGCAGGTGCTAT

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