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Notes on natural history of pantropical huntsman spiders from West Bengal, India

Heteropoda venatoria (Linnaeus, 1767), commonly known as pantropical huntsman spider, belonging to family Sparassidae, is found globally in the tropical regions including India, with a size of the females measuring 2.5–3.0 cm and males measuring 2.0–2.5 cm, excluding the legs (Sebastian & Peter 2009). These spiders are often found in human habitations and gardens (Ross et al. 1982; Sebastian & Peter 2009). In the present communication, I report two opportunistic observations on the natural history of pantropical huntsman spiders *Heteropoda venatoria* from an urban locality of West Bengal in eastern India.

Panihati (22.69° N, 88.37° E, 13 m) is an urban locality of North 24 Parganas District in West Bengal, India. It is a part of Lower Gangetic Plains physiographic zone and is located beside the Ganga River. Visual observations and photographic documentations were carried out during the study. Observations were made from a safe distance to minimize any disturbance to their natural behaviours. The spiders were identified as *Heteropoda* cf. *venatoria* from visual observations and photographs following Sebastian & Peter (2009), Jäger (2014), and Mondal et al. (2020).

On 13 July 2022 at 1028 h, a *Hemidactylus flaviviridis* gecko (Squamata: Gekkonidae) was observed to feed on a male *Heteropoda* cf. *venatoria* spider, perching on a shaded cemented brick wall at about 1.3 m height from the ground in my residence in the study area. The spider was still moving slowly, that proves it was still alive. Then after some minutes, the gecko took the spider to a higher part of the wall, at about 1.8 m from the ground, orienting itself in head-below position. The spider was dead by then. It jerked the spider a few times by its jaws and continued the devouring. Because of jerking, three legs of the spider detached from its cephalothorax and dropped below. At 1037 h, the gecko further placed itself at a higher darker horizontal crevice of the wall, at about 2 m height from the ground and placed itself there horizontally and continued to feed on the remaining parts of the spider, including the remaining legs.

Feeding completed at 1113 h. The gecko was seen to stay in the same spot until 1120 h, when observation was ended. In this present observation, the gecko completed the spider-feeding in 45 minutes. Photographs of this observation was taken with a Lenovo K33a42 smartphone camera. The gecko was about 8 cm in snout to vent length and the tail length was about 4.5 cm. *H. flaviviridis* is widespread in northern and eastern India and in all the districts of West Bengal (Deuti 2013). The gecko was identified following Daniel (2002) and Deuti (2013). This is a commonly seen household gecko species in the study area, and I have seen them feeding on *Periplaneta americana*

ISSN 2230-7052
Bugs ALL
#299
21 February 2026
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***Hemidactylus flaviviridis* gecko feeding on *Heteropoda cf. venatoria* spider. © Tanmoy Bhowmick.**

The gecko feeding on the spider. © Tanmoy Bhowmick.

The gecko feeding on the remaining leg parts of the spider. © Tanmoy Bhowmick.

The gecko after completing feeding on the spider. © Tanmoy Bhowmick.

cockroaches, winged termite alates, leafhoppers and moths in this locality.

A second opportunistic observation was made on 30 May 2025, inside a bathroom of my residence, in which a female *Heteropoda* cf. *venatoria* spider was observed to feed on an adult *Periplaneta americana* (Insecta: Blattodea), commonly known as American Cockroach. The spider was observed to hold the cockroach by the cockroach's thorax, at 2201 h. The cockroach was slowly moving its antennae and legs, and subsequently after one minute it stopped moving. It proves that it was a fresh catch for the spider. The spider was

ISSN 2230-7052
Bugs ALL
#299
21 February 2026
Newsletter of the
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***Heteropoda cf. venatoria* predating on a *Periplaneta americana*. © Tanmoy Bhowmick.**

The spider feeding on the cockroach. © Tanmoy Bhowmick.

The spider carrying the cockroach to a higher reach of a vertical wall. © Tanmoy Bhowmick.

The spider after completing feeding on the cockroach. © Tanmoy Bhowmick.

perching motionlessly on a cemented vertical short wall, at about 10 cm above the ground. I assume the spider had caught the cockroach, when the cockroach was foraging on the floor of the bathroom. At 2206 h, the spider took the cockroach by walking, on a higher perch of a nearby vertical wall. It perched at about 1.6 m from the ground. It continued to feed on the cockroach by changing the position of the puncturing spot of the spider's chelicera on the cockroach. At 0225 h of 31 May 2025, the spider completed the cockroach-feeding and

ISSN 2230-7052
BUGS R ALL
#299
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left the body of the cockroach on the vertical wall, attached to the wall with some silken threads of the spider. The complete feeding process took about 4.5 hours. The spider was observed to perch on the same spot until 0232 h, when the observation was ended. Photographs of this observation was taken with a Nikon Coolpix B500 camera. *Heteropoda* cf. *venatoria* is commonly seen inside the houses of this area and I have seen them undergoing ecdysis and carrying egg sacs, inside houses. American cockroach is a common insect also found inside the houses of this area and is considered as a household pest.

Heteropoda venatoria spiders are known to be predated by toads, frogs, geckoes, agama lizards and birds (Ewunkem et al. 2016). These spiders are reported to feed on cockroaches, mealybugs, aphids, ants, bees, flies, moths, butterflies, *Gryllus domesticus* cricket, *Isometrus maculatus* scorpion, *Labochirus* whip scorpion, *Hemidactylus frenatus* gecko and *Pipistrellus* bat in the wild and various insects of different instars in laboratory condition, including *Drosophila melanogaster* fly, unidentified Drosophilidae, mealworm larvae *Tenebrio molitor*, *Acheta domesticus* cricket, and cabbage looper larva (*Trichoplusia ni*) (Bhattacharya 1941; Ross et al. 1982; Ewunkem et al. 2016; Neogi & Islam 2017; Karmakar et al. 2023).

Food habit data of animals in urban environments are important to understand the prey use and for planning the conservation measures, because of rapid rate of habitat degradation (Purkayastha & Purkayastha 2012). *Hemidactylus flaviviridis* gecko is a sit-and-wait forager, reported to feed on insects; spiders of family Dictynidae, Oecobiidae, Miturgidae, Pholcidae, Gnaphosidae, Salticidae, Filistatidae, Scytodidae, Araneidae and Theridiidae; centipedes; plant materials; other congeneric gecko like *Hemidactylus frenatus* and occasionally cannibalistic (Sharma & Vazirani 1977; Daniel 2002; Ibrahim 2003; Deuti 2013; Parves & Alam 2015; Narwade et al. 2024). In the present communication, *Hemidactylus flaviviridis* gecko is reported as a predator of *Heteropoda* cf. *venatoria* spider (family Sparassidae) from West Bengal, India. To the best of my knowledge, this is a newly reported prey item of this gecko species from India. Interestingly, *Heteropoda* spider is known to feed on *Hemidactylus* gecko (Neogi & Islam 2017). This complex predator-prey dynamics between them should be studied in detail.

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ISSN 2230-7052

Bugs R All

#299
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Newsletter of the
Invertebrate Conservation & Information Network of South Asia (ICINSA)

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