



First record of *Argiope anasuja* Thorell, 1887 (Arachnida: Araneae; Araneidae) from Jhajra, Dehradun district, Uttarakhand (India), with distribution and other aspects

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ARTICLE INFO	ABSTRACT
<p>Original Research Article Received on May 11, 2024 Revised on May 18, 2024 Accepted on June 19, 2024 Published on June 22, 2024</p> <p>Article Author Akhlaq Husain</p> <p>Corresponding Author Email drakhlaqhusain@gmail.com</p>	<p>The present communication deals with first record of <i>Argiope anasuja</i>, an orb-weaver or signature spider, belonging to family Araneidae under order Araneae, from Jhajra, Dehra Dun district, Uttarakhand (India), with its distribution and other aspects. Its female builds a web in zig-zag pattern, resembling some signature and rests on it, upside down. The male is much smaller than that of the female and generally killed by female after mating.</p>
PUBLICATION INFO	KEYWORDS
<p>International Journal of Agricultural Invention (IJAI) RNI: UPENG/2016/70091 ISSN: 2456-1797 (P) Vol.: 9, Issue: 1, Pages: 311-314 Journal Homepage URL http://agriinventionjournal.com/ DOI: 10.46492/IJAI/2024.9.1.40</p>	<p>First Record, <i>Argiope anasuja</i>, Jhajra (Dehradun)</p>

HOW TO CITE THIS ARTICLE

Husain, A. (2024) First record of *Argiope anasuja* Thorell, 1887 (Arachnida: Araneae; Araneidae) from Jhajra, Dehradun district, Uttarakhand (India), with distribution and other aspects, *International Journal of Agricultural Invention*, 9(1): 311-314. DOI: 10.46492/IJAI/2024.9.1.40

The Spider fauna of Dehradun district is meagerly known, except for some references (Uniyal & Hore, 2006; Gupta & Siliwal, 2012; Kumar *et al.*, 2019; Husain, 2020; Husain & Wajid, 2020; Thapliyal *et al.*, 2020). Biswas & Biswas (2010), Caleb & Kumar (2018) and Singh & Singh (2022) dealt with spider fauna of the state of Uttarakhand/ Western Himalaya in general. Rizvi *et al.* (2017) while dealing with the faunal diversity of Dehradun district mentioned 56 species under order Araneae but not listed the names of species. Rana *et al.* (2024) assessed the impact of anthropogenic and climate change on spider diversity in Garhwal Himalaya (Doon Valley and Uttarkashi) but also

didn't mention the names of species. *Argiope anasuja*, a species of orb-weaver spider, belonging to family Araneidae is a peculiar spider as like other species of the same genus known as signature spider on pattern of its web, was recorded from Wildlife Institute of India Campus, Dehradun, the only known locality for the species in Dehradun district, by Gupta & Siliwal (2021). Recently, a good specimen of the same has been sighted at the Regional Science Centre Compound, Vigyan Dham, Jhajra, Chakrata Road, Western Doon Valley, around 12-13 km west of Dehradun city and recorded here.

Study Site: Jhajra, Dehradun, Uttarakhand (India)**Location**

Jhajra village (alt. 648 m asl) lies in Sahaspur Block in Dehradun district of Uttarakhand (India) and located about 13 km towards west from district headquarters (Dehradun).

Weather

Varies around 7-24°C temperature during November, the month of sighting the specimen and relative humidity 82% in Dehradun (Rizvi *et al.*, 2017).

Flora

Variety of plants, including grasses, sedges, climbers, fodder-yielding plants, herbs, shrubs and trees.

Systematic Account, Distribution and Other Aspects***Argiope anasuja* Thorell, 1887**

Argiope anasuja Thorell, 1887. *Annali del Museo Civico di Storia Naturale di Genova* 25: 162 (D); (Pocock, 1900). *Faun. Brit. India*, Aracnida: 222; (Gravely, 1921). *Rec. Indian Mus.*, 22: 412, fig. 3a; Sinha, 1951. *Rec. Indian Mus.*, 49: 74; (Grasshoff, 1980). *Revue Zoologique Africaine*, 94 (2): 389; (Tikader, 1982). *Fauna of India*, Araneae: Spiders, 2(1): 127; *Bulletin of the Museum of Comparative Zoology*, 150(5): 293, figs. 167-172; (Biswas & Biswas, 1992). *Fauna of West Bengal, Part- III, Araneae: Spider, State Fauna Series*, 3: 45; (Biswas & Biswas, 2010). *Aranae: Spider. In: Fauna of Uttarakhand. State Fauna Series*, 18(3): 244, 251; (Saaristo, 2010). *Araneae In: Gerlach & Marusik (eds.). Arachnida and Myriapoda of the Seychelles islands*: 48, figs. 4.66-71; (Gupta & Siliwal, 2012). *Indian Journal of Arachnology*, 1(2):79; (Jager, 2012). *Beiträge zur Araneologie*, 7: 299, figs. 84-87; (Caleb & Kumar, 2018). *Arachnida: Araneae. In: Faunal diversity of Indian Himalaya*: 181; (Singh & Singh, 2022). *Arthropods*, 11(1): 22-35. *Argiope plagiata* (Karsch, 1892). *Berliner Entomologische Zeitschrift*, 36 (2, 1891): 279, pl. 10, fig. 5 (female); Strand, 1907. *Abhandlungen der Naturforschenden Gesellschaft Gortitz*, 25: 167, fig. 5. *Argiope anasuja fletcheri* Hirst, 1911. *Transactions of the Linnean Society of London, Zoology*, 2 14(3): 385, fig. 3.

Classification

Class Arachnida, order Araneae, infraorder Araneomorphae, family Araneidae, genus *Argiope*

Sighting

1 example; Regional Science Centre, Vigyan Dham, Jhajra, Sahaspur Block, Chakrata Road, Western Doon Valley, Dehradun, Uttarakhand, India; 16.xi.2024; by Mr. Mohmmmed Yunus.

Diagnostic Features

Cephalothorax greyish-brown with hairs; sternum heart-shaped with hairy pubescent white patch; palps bearing spines; legs greyish-brown, banded and hairy, femora dorsally yellowish; abdomen pentagonal and hairy, dorsal side yellowish with brown transverse bands enclosing white dots; three sigilla pairs distinct; ventral side dark brownish with two longitudinal white patches (en.wikipedia.org).

Size

Females measure about 8-12 mm in length and males 3.5-4.5 mm (en.wikipedia.org).

Habitat

Mostly found on plants of family Mimosaceae.

Web

Female builds a web in a plane of shadow in zig-zag pattern, having a hole in centre for escaping through on disturbance or some danger, resembling some signature and hence commonly called signature spider, adult female rests at the centre of the web with head facing downwards.

Food and Feeding

Insects passing through the web.

Breeding

Male much smaller than female, it spins a companion web around that of female, after mating female lays around 400-1,400 eggs on male's web and wrap them up into a sac and kills male; after hatching spiderlings feed on each other and the strongest survivor comes out breaking sac wall.

Distribution

India: Uttarakhand: Dehradun district: Wildlife Institute of India Campus (Gupta & Siliwal, 2012); Regional Science Center, Vigyan Dham, Jhajra, Chakrata Road, Western Doon Valley (present record).

Rest of Uttarakhand

Haridwar (Rajaji Tiger Reserve) and Almora (Ranikhet) districts; Western Himalaya (Biswas & Biswas, 2010; Caleb & Kumar, 2018).

Rest of India

Bihar, Central Himalaya, Karnataka, Maharashtra, Odisha, Tamil Nadu and West Bengal (Tikader, 1982; Biswas & Biswas, 2010; Caleb & Kumar, 2018).

Elsewhere

Barbuda/ Barkuda Island, Brazil, Indian Ocean Expedition, Maldives, Myanmar, Nepal, Pacific region (western), Pakistan, Seychelles and Sri Lanka (Thorell, 1887; Karsch, 1892; Strand, 1907; Hirst, 1911; Gravely, 1921; Grasshoff, 1980; Levi, 1983; Saaristo, 2010; wsc.nmbe.ch).



Fig 1. *Argiope anasuja*, female (photo credit: Mr. Mohammed Yunus)

Acknowledgements

The author is thankful to the Dr. Dhriti Banerjee, Director, Zoological Survey of India, Kolkata for encouragement, Dr. Gaurav Gupta, Officer-in-Charge, Northern Regional Centre, Dehradun for library facility, Dr. S. S. Talmale, Scientist-C, Western Regional Centre, ZSI, Pune for help in some literature, Mr. Mohammed Yunus, Mehuwala Mafi, Shimla Bypass Road, Dehradun for sharing the photograph and Mr. Prakash Joshi, Sangli, Maharashtra for help in identification.

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