



Research Note

Additional records of red-backed spider, *Latrodectus hasselti* Thorell (Araneae: Theridiidae) in Gujarat state, Western India

B. M. PARASHARYA^{1*}, RAJU V. VYAS², DARSHANA M. RATHOD¹ and V. M. MISTRY³

¹AINPVP: Agricultural Ornithology, Anand Agricultural University, Anand – 388110, Gujarat, India

²Shashwat Apartment, 23 Anandnagar Society, BPC Road, Alkapuri, Vadodara - 390007, Gujarat, India

³Darbar Pole, Vaso, Kheda – 387380, Gujarat, India

*Corresponding author E-mail: parasharya@yahoo.com

Abstract: The widow spiders, of the genus *Latrodectus* are amongst the best known spiders on the earth, all members of this genus are considered venomous and largest amongst the comb-footed spiders. In India, four species are recorded from the genus, including *Latrodectus hasselti*. The species *L. hasselti* is considered to be a rare species and this species was recorded from most parts of Gujarat State. As this spider has medical significance due to its neurotoxins reporting of its habitat occupancy and geographic location becomes important for taking up any mitigation action in future. Recently the species was seen in ten different localities of South Gujarat. Out of ten records, two are from forest area, two from wasteland, four from residential area, one from agricultural land and one from grassland. The earlier published records and present records of the species show that this species is very widely distributed in entire Gujarat State, within various types of habitats from dry-arid to moist forests and grassland to agricultural land and further within human habitats, too.

KEY WORDS: Gujarat, *Latrodectus hasselti*, record

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The widow spiders, of the genus *Latrodectus* Walckenaer, 1805 (Theridiidae) are amongst the best known spiders on the earth, all members of this genus are deadly venomous and largest amongst the comb-footed spiders (Mc Crone, 1964). This genus is widely distributed throughout the drier parts of the tropics and warmer regions of the world (Murphy and Murphy, 2000) and it contains about 31 species, many of which are cosmopolitans occurring over many continents (Platnick, 2014).

In India, four species are recorded from the genus, including *Latrodectus hasselti* Thorell 1870, *Latrodectus geometricus* Koch 1841, *Latrodectus elegans* Thorell 1898 and *Latrodectus erythromelas* Schmidt and Klaas 1991. First two species were recorded in various habitats of Gujarat (Parasharya *et al.*, 2015; Vasava *et al.*, 2015).

In India, *L. hasselti* was considered to be a rare species (Siliwal and Kumar 2001) when there were scanty publication available on the species records. However that was not the case in Gujarat state as this species was recorded from most parts of Gujarat State, except moist deciduous areas of south Gujarat (Patel and Pillai, 1987; Patel *et al.*, 1987; Patel and Vyas, 2001; Parasharya *et al.* 2015). Parasharya *et al.* (2015) presented a total account of the species.

Its presences were recorded from various types of habitat of the state, including scrub land, arid area of Kachchh, forest, agricultural and urban habitat, too. Parasharya *et al.* (2015) showed the distribution of the species in Kachchh, Saurashtra, north and central Gujarat but it had not been recorded from districts of south Gujarat, including Bharuch, Narmada, Surat, Tapi, Navsari, and Valsad, in spite of intensive survey in Vansda National Park (Patel, 2000; 2003) and Purna Wildlife Sanctuary (Patel, 2004; Siliwal *et al.*, 2003) as Protected areas of most northern end of Western Ghats.

So far the species has been recorded only from cotton, castor and lucerne crops (Siliwal and Kumar, 2001; Parasharya *et al.*, 2015) with relative abundance less than 0.01 per cent whereas its occurrence in natural habitats (forest, wasteland, grassland) and human habitation was relatively high (Parasharya *et al.*, 2015). As this spider has medical significance due to its neurotoxins (Mc Crone, 1964), reporting of its habitat occupancy and geographic location becomes important for taking up any mitigation action in future. Recently we come across the presence of the species in ten different localities of the state (Table 1; Map 1), including two localities; Waghai forest, Navsari district and Surat City, Surat district. Both these localities fall in the regions of south Gujarat.

Table 1. Additional records of Red-backed Spider *Latrodectus hasselti* in Gujarat, India

Sr. No.	Date of record	No. individuals	Place of record	Coordinates	Micro Habitat	Observer
1	27.07.2013	1F	Rajkot City, Rajkot	22.295801°N 70.798839°E	Residential garden	Ravi Ardeshana, Rajdeep Jhala
2	01.03.2014	1F	Dasada, Surendranagar	23.325198°N 71.831485°E	Residential compound	Sarfrazuddin Malik, G.A. Vora
3	15.08.2014	1F	Thangadh, Surendranagar	22.551576°N 71.159780°E	Rocky plains, Wasteland	Bavya Joshi
4	---.08.2015	Several females	Galteshwar, Kheda	22.784943°N 73.277448°E	River edge, Wasteland	Prathmesh Patel, Dhaval Mehta
5	03.05.2015	1F	Aankolvadi, Gir forest, Junagadh	21.035286°N 70.666776°E	Forest area	Pranav Vaghasia
6	01.09.2015	2F with egg sacs	Waghai, Navsari	20.752159°N 73.486101°E	Below stones, Forest area	VM, DR, BMP
7	17.01.2016	1F	Surat City, Surat	21.166710°N 72.831193°E	Plant pot, Residential garden	Bharat Parmar
8	17.04.2016	1F	Deva, Kheda	22.620138°N 72.734903°E	Bhabharam Temple Complex, Residential area	VM
9	30.06.2016	2F with egg sacs	Navli, Anand	22.505869°N 72.962820°E	In pipeline. Agricultural area,	DR, BMP,
10	05.08.2017	1F with egg sacs	Rashamiya vidi, Chotila, Surendranagar	22.429096°N 71.191760°E	Grassland	G. A. Vora

This additional record of the *Latrodectus hasselti* clearly indicated that the species is distributed in South Gujarat region not only but it rules out earlier statement of Parasharya *et al.* (2015) that ‘the species is not distributed in the moist-deciduous forests of the most northern end of Western Ghats’.

Other important records are from Ankolvadi area of Gir forest and Dasada of Surendranagr on the fringe of Little Rann of Kachchh from where there was no previous record. Remaining records are from previously known area establishing that their presence in the area is not a chance event.

Out of ten records, two are from forest area, two from wasteland, four from residential area, one from agricultural land and one from grassland.

Thus, to conclude the information from the earlier published records and present records of the species show that this species is very widely distributed in entire Gujarat State, within various types of habitats from dry-arid to moist forests and grassland to agricultural land and further within human habitats, too.

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