

# First time reported of red-back spider of family theridiidae and genus of species *L. hasselti* Thorell, 1870 (Araneae: Arachnida) from District Sohbatpur, Balochistan, Pakistan

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## Abstract

This work is a part of my M. Phil research work. The Thorell, 1870, reported Red-back spider *Latrodectus hasseltii* is from temperate and tropical zone throughout the world, it is new reporting *Latrodectus hasselti* for the first time from District Sohbatpur, Province Balochistan of Pakistan taxonomic description for the species based on female specimen collected from the area District Sohbatpur. Province Balochistan.

**Keywords:** lactrodectus, taxonomy and sohbatpur

## Introduction

The ranking of Spiders in Kingdom-Animalia, is very high and belongs to Phylum Arthropods, its Class is Arachnida and Order-Araneae has position in group of spiders on the 7<sup>th</sup> among animals. Spiders (order Araneae) possess eight legs, mostly six to eight eyes, chelicerae possess fangs able to inject venom and on the posterior side of the abdomen silk producing organ called spinnerets are present. Spiders can be found every part of world with exclusion of Antarctica, having marvoulous habitation ability except sea colonization and in air. Taxonomists recorded 48200 approx: species of spiders, and nearly 114 families throughout the world they can live on land and can spent their life in agricultural environment the spiders are predator, polyphagous having top-down effect in agriculture minimize use of pesticides by killing preys, numerical response and mandatory feeding strategies but few genera inject venom, are harmful to vertebrate even Human. Among poisonous genera genus *Latrodectus* is also poisonous spider of the (Araneae, Theridiidae) lives intemperate and tropical zone throughout the world, they contain the higly potent neurotoxin  $\alpha$ -latrotoxin due to that they are poisonous that can generate immense neurotransmitter release upon injection in vertebrate [9]. *L. hasselti* are a widow spider, they are the most medically importance, its bite is generally gentle and frequently might not be felt, after bite reddish lump with red streak can appear feel pain, respiration, weakness of muscles, nausea, vomiting, abdominal pain, blood pressure will incese, and sever hypertension. The very young or elderly persons are high risk groups, especially those who have preexisted heart disorder [3]. More than bee sting pain can feel however, within the first hour pain could be increase [4,8]. In our area this spider sting is not reported or People unaware It can be found in buildings, outdoor and indoor furniture, machinery and mass of materials. This spider can form its web in dryplaces, e.g. in the middle of stones, under logs, sheds and culverts [5].

## Pakistan history

Literature about *Latrodectus* of the Family Theridiidae very poor and only work from Province of Sindh described by Ursani 2014 for first time, in my survey one genus and species holotype female was reported from province of Balochistan Pakistan.

## Studying area

Sohbat pur city is in the Balochistan priovince of Pakistan. This region is situated at north western part of Balochistan its coordinate are 68.54 longitude and 28.52 latitude northern. District kandhkot Sindh is district Dera Bugti is on west and on south district Jacobabad Sindh. Sohbatpur district is an important agricultural point of view among all districts of Balochistan. In city ancient famous Mosque is also present. The People of this district depends upon agriculture and cattle animals because mostly they are farmer, this district falls in the tropical agro-eco logical point it falls in tropical. The suggested crops for the district according to its ecological zone are given in below: Wheat, Rice, Mustard, Mutter Pulse, cereal, Vegetables, Sunflower, Rice, Maize, Pulses, mostly people cultivate rice and wheat.

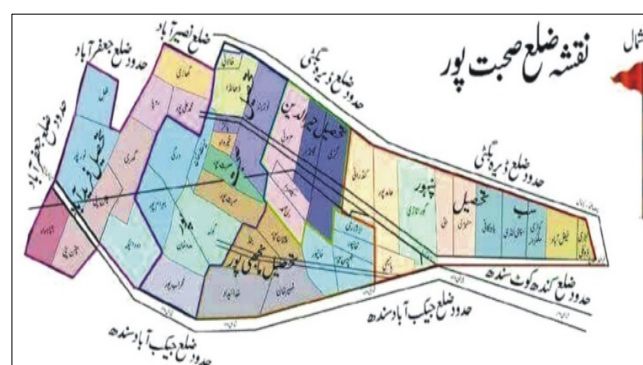


Fig 1: Surveyed District Sohbatpur-Balochistan Pakistan

## Materials & Methods

### Spiders collection

This Holotype female species was collected in month of September 2018, it was found inlet water pipe of washing machine in my house, collection was done by hand picking and then preserved in 75% of ethanol and added 2 to 3 drops of Glycerine plain tubes, after two weeks ethanol was replaced to avoid any contamination.

Spider parts were photographed, under dissecting microscope. All measurements are given in millimeters, width and length differences of the body, abdomen, cephalothorax, legs, and eye Pattern given below.

### Material examined

One holotype ♀ dated: 17.09.2018 collected by Muhammad Luqman(author)



Fig 2: obversion of speciemen in Lucida zoom Microscope

### Preparation part of body

The identification was carried out on the basis of morphological characteristics i.e color of the live specimens, arrangement of eyes, and Female epigynum. according to the taxonomic key diagnostic [2] from the abdomen of Female spider epigynum were removed carefully with the help of insect pin by lifting the epigastric furrow. The borders of the epigyne were picked close to each as likely with a needle, and then the entire shield was detached using fine forces. The epigynes were dipped in 60% H<sub>2</sub>O<sub>2</sub> hot solution (80 °C) from 5 to 15 minutes to wash them. The epigyne were carefully observed, for clarification it was dipped into solution of 60% H<sub>2</sub>O<sub>2</sub> and then washed after 5 to 15 minutes.

The genitalia were openly sited in the depression of concave microscope slide and by camera lucida, after drawing the genitalia were preserved in 10 ml vial (contain 70% ethanol) with the original specimen.

### 3. Results

No. of collected spiders =1 females (1holotyp).

The color of this species is mostly black and called Redback Spiders. On the abdomen of juveniles possess extra white marking [7]. Body size is about large pea size and legs are mostly slender. The red markings sign present on body is somehow different. The colors of body are dim and possess red marking on upper side of abdomen have hour glass shaped marking after week red marking get dim due to ethanol.



Fig 3: Dorsal and ventral view of female *Lacrtodectus hasselti*



Fig 4: Sternum *Lacrtodectushasselti*, Red Marking *Lacrtodectushasselti*

**Table 1:** Measurements of *Lacrtodectushassetli* (mm)

Parameters	Holotype ♀
Body Length	12.2
Cephalothorax Length	4.0
Cephalothorax Width	1.5
Abdomen Length	8.2
Abdomen Width	0.9

**Table 2:** Leg Measurements (mm)

Legs	I	II	III	IV
Femur	10.4	10.2	8.1	10.3
Patella + Tibia	13.3	12.2	9.2	10.2
Metatarsus	8.1	7.2	5.2	7.0
Tarsus	1.4	1.4	0.5	0.7
Total	32.9	30.10	22.9	27.12

### Remarks

*L. hasselti* be similar in appearance *L. katipo* but the different by have a bordered red stripe that runs from the topmost surface of black abdomen back to the spinnerets, in spite of this black widow abdomen has been described as satin or silky in emergence but *L. hasselti* was smooth. This work is done for the first time from District Sohbatpur Balochistan Pakistan.

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