Vol. 5 No. 1 (2026)

Pakistan Journal of Medical & Cardiological Review

https://pakjmcr.com/index.php/1/about

Online ISSN 3007-2387

Print ISSN 3007-2379

ECOLOGY AND MORPHOLOGY OF SPECIES: TETRAGNATHA JAVANA (THORELL, 1890) IN KECH BALOCHISTAN PAKISTAN

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Received on 12 February, 2026

Accepted on 04 March, 2026

Published on 10 March, 2026

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Abstract

Tetragnatha javana (Thorell, 1890) known as long-jawed orb-weaving spider generally, spread through subcontinental countries of Asia and some parts of Africa, and is frequently recorded in agro-ecosystems including every crops and wheat crop in all over Pakistan. *T. javana* is principal orb-web type, paying meaningfully to spider open organization and possible bother mechanism roles in cornflakes yields. Morphometric behaviors, including whole figure measurement, carapace extents, leg sizes, show noticeable difference between orb-web types and associate through web design in any agro-ecology, it showing species particularity probing approaches and function separating. Research in various parts including agro-ecosystems in different parts of Pakistan accepted that the *T. javana* spiders show distinct morphological geographies, rather extended figure and mouths parts, related by net characters adjusted for target seizuring among various crop fields. Particularly

Pakistan's wider spider beasts' reviews, *T. javana* is frequently described between tetragnathid groupings starting different gathers, yet complete morphometric explores remain restricted in some areas such as District Kech (Balochistan), everywhere it is the reference point biodiversity records are meager. Assimilating morphometric data collections with environmental parameters through habitations improves to understand the *T. javana*'s useful character, erotic dimorphism, by proposing initial information for classification, species perception, and natural mechanism inferences into Pakistan

1 Introduction

Common Name: Long jawed, Orb Weavers.

This genus occurs **universal**, particularly in humid and subtropical regions, there are numerous species are related with territories near water wherever they build horizontal orb webs to arrest hovering flies.

Worldwide, *Tetragnatha* spider's performance is essential environmental role as hunters of hovering insects, they also subsidize to usual pest parameter in numerous ecosystems. Amongst these, *T. javana* recorded, regular and broad environmental dispersal of genus. In Pakistan, spider fauna has been recognized in numerous areas, but comprehensive accounts of numerous individual's species endure limited. Overall specifications and investigations show that *Tetragnatha* species, with *T. javana*, present in agronomic and ordinary environments such habitats include crop fields, wherever they pay to biodiversity and pest destruction.

In the Balochistan Province, spider's diversity reveals comparatively scarce with soe other areas of Pakistan, and only insufficient available records of this spiders from barren province. Because citations of *T. javana* from the District Kech characterizes a primary research documentations reported for this zone and enhances new faunistic records to our indulgent of spider dispersal in Balochistan Species are renowned by protracted chelicerae. Species have capacity to round web into orb-shaped form. This offer each species for open name "long-jawed" spiders. Chelicerae of species bearing venomous incisors for capturing and soothing prey.

Structure is slender form. Each species is different size; maximum of species is small to big spiders, legs are lengthier, it helps to steer in webs. Legs sizes differs among different species, normally, nets changed horizontally on slanted position in vegetation

areas, considered close to damps or exposed dwellings, it has darks brown, olive and gloomy colors. rare species including no outline of colors,

2 METHODOLOGY

Assemblage of spiders: samples of spiders were together from nominated region Kech Baluchistan. assemblage complete done by corporal hand gathering, spray procedure was done as to decrease rapidity of the spiders, arch net, pitfall technique also applied as to collect specimens through diverse zones of district Kech, including many parts, cracks in mountains, agricultural zones and dasht rivers.

Figure 01: The collection of spiders from Bitt and Buleda tehsils of district Kech.

Figure 02: Showing the collection of spiders from Field.

Gloves used on hand for gathering of various specimens of spiders. Subsequently sampling of specimens of spiders, each Specimens were conserved and closed into small flasks, which contains 70% alcohol with some drops of glycerin. Well-kept spiders kept back into minor sized Petri dishes meant more examination

2.1. Pitfall Technique: The assortment of various samples of listed spiders also done through this method, this procedure is more proper than some others procedures. Collections were made while temperature remained normal.

Figure:03 presentation pitfall system to snare spiders at field.

2.2. **Sweeping with net.** The techniques were efficient to collection spiders as of lower parts on foliage of shrubs and bushes. The joined with grip, this was made on loop structure, though collection was retained into canvas.

Figure 04: showing sweep net manner for setup spiders at fields.

3 Results and Discussions:

Occurrences: Worldwide in distribution.

Habitat: these built webs on different zone including underbrush shoots, yield close rivers bushes and upon few meters on ground. Webs considered minor than the other spiders built. Webs just constructed for trapping slight creatures.

3.1. Environmental Position:

Mostly are orb-web builders but built webs flat in the open atmospheres. Construction of webs occur into diverse parts.

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Figure: 05. The dorsal side and ventral side of the Tetragnatha javana

Table: *Morphometric measurements (in mm) different parts of body Tetragnatha javana*

Specimens	Sex	Head		Chelicera	Palp	Abdomen		Spinnerets	Total length
		Length	Width	Length	Length	Length	Width	Length	
male (1)	♂	1.91	1.15	0.81	1.02	6.02	2.05	0.88	13.84
female (1)	♀	2.8	2.03	0.58	2.55	8.13	2.21	0.71	19.01

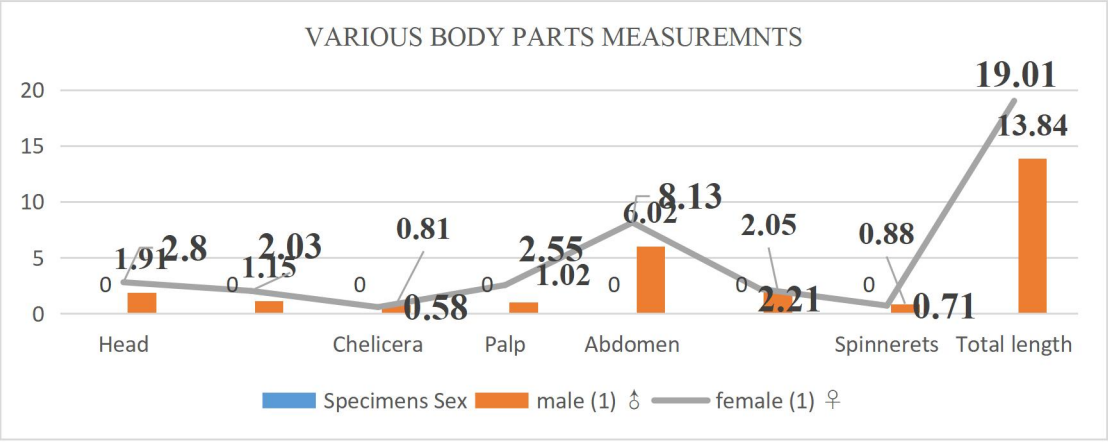

Figure 06: dimensions of many parts of the species Tetragnatha javana

DOI: https://doi.org/10.5281/zenodo.19861597

Table 4-45 the measurements of various leg parts of the species *Tetragnatha javana*

species	Sex	Leg length	Fumer	Patella	Tibia	Metatarsus	Tarsus	Total length
T.javana		Leg 1	9.4	6.3	5.5	8.1	1.05	30.35
	♂	Leg 2	9.3	9.01	7.01	7.2	1.2	33.72
		Leg 3	5.01	5.6	4.01	5.2	0.78	20.68
		Leg 4	9.5	8.01	6.05	7.1	1.1	31.76
	♀	Leg 1	11.1	8.5	6.5	9.2	1.4	36.7
		Leg 2	10.01	11.01	9.05	8.6	1.2	39.87
		Leg 3	6.5	4.2	4.5	5.3	1.5	22
		Leg 4	12.1	8.05	7.05	9.5	1.9	38.6

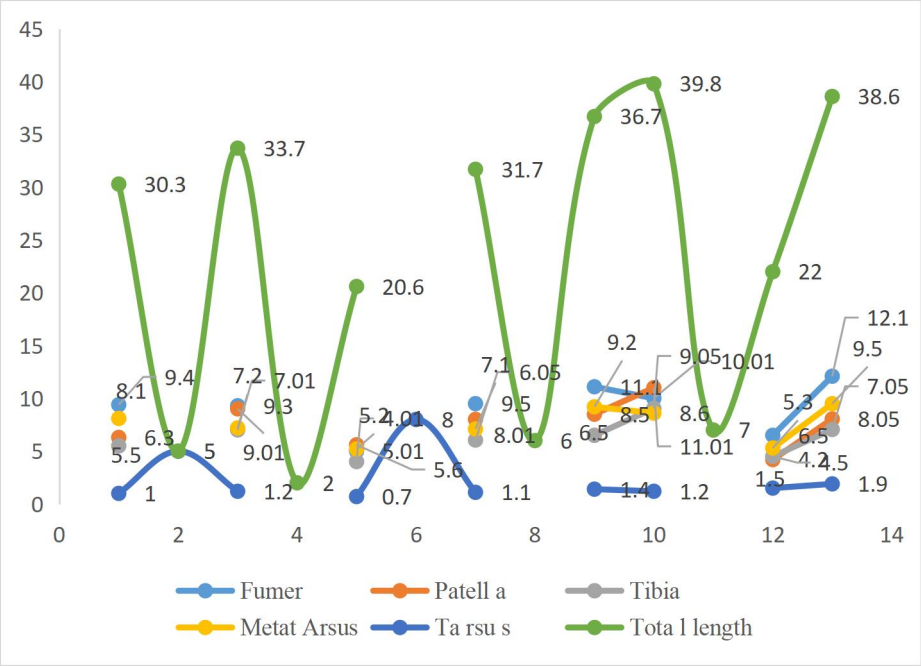

Figure 07: dimensions of many leg parts of the species Tetragnatha javana

4 Discussions

The documentation of *T. javana* from the District Kech pays significantly roe into the local arachnofaunal specification and improves our recognitions of species spreading in barren and semi-arid biomes. This represents the first evidences from the District Kech, it highlights the requirement for more taxonomic analyses in southwestern parts of Pakistan. This species has distinctive tetragnathid features, Extended cylinder-shaped abdomen Slim, lengthened legs (leg formula I > II > IV > III). Noticeable, extended chelicerae i-e males, Silvery or greenish figure pigmentation supporting in disguise among flora. Morphometric dissimilarities showed in native specimens which reveal environmental effects such as hotness, prey availability and humidity, Small modifications in the body size, width in carapace, leg part measurements likened to earlier available descriptions which specify geographic difference or phenotypic flexibility.

Sexually males are commonly smaller but having more advanced chelicerae for copulating embracing mechanisms. Such variances are reliable with international explanations of genus. In District Kech,, existence of *T. javana* recommends adaptableness to the semi-arid environments, possibly depend on moistened agricultural regions and cyclical streams. This flexibility proves environmental flexibility within this species.

The *T. javana* in the underexplored areas like District Kech showing, the unseen diversity of arachnids in the Balochistan it need very sustained biological and taxonomic exploration in the arid regions.

5. Acknowledgement: I'm very thankful to Dr Jawaid Ahmed khokhar and Dr. khalid Hussain Rind for their co-operation in publication of paper

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