Return of a ghost: Rediscovery of the Trinidad Mahogany Tarantula *Tapinauchenius latipes* in Trinidad, W.I.

The Trinidad Mahogany Tarantula *Tapinauchenius latipes* is a large, iridescent arboreal tarantula. Despite its reputation in the pet trade and local folklore, no verified observations have been made for over forty years, with the last confirmed record in 1981. Herein, we report the rediscovery of this lost species in Trinidad during September 2025. Both juvenile and subadult specimens were observed and documented, providing the first evidence in more than 40 years of the species' persistence on the island. These findings raise important questions about the species' rarity, its apparent disappearance from previously surveyed regions, and the possible threat and impacts of collection pressure from the pet trade.

The Trinidad Mahogany Tarantula *Tapinauchenius latipes* is a striking arboreal theraphosid, highly valued in the exotic pet trade because of its large size, rarity, voracious feeding habits, fast growth and beauty. The first mention of the presence of *Tapinauchenius* (Ausserer, 1871) in Trinidad was made by Cambridge (1898). Once apparently well known on Trinidad, the last records of *Tapinauchenius* (Ausserer, 1871) on the island were collected by Rick West in 1981 on the basis of specimens collected at the Simla Biological Research Station in the Arima Valley [UTM 20P 687035E, 1182423N] (West 1983). These were reported under the species *Tapinauchenius plumipes* however the Trinidad W.I. population of *Tapinauchenius* has since been designated as *T. latipes* by Cifuentes and Bertani (2022).

The Arima Valley has to date remained one of the most consistently and comprehensively surveyed areas of Trinidad, however this area has since not yielded any specimens of *Tapinauchenius*. Historical records also include specimens collected from the Arena Reserve in 1959 and the Nariva Swamp [715332E, 1146618N] in 1964 (Cifuentes and Bertani 2022). Species of *Tapinauchenius* (Ausserer, 1871) are sometimes referred to as 'Ghost Tree Spiders'. We found this name rather appropriate to describe the presence of the taxa on Trinidad and as such, have referred to it as the 'Ghost Tarantula' in conversation.

Over the past few years, SM has informally interviewed naturalists, tarantula collectors and hobbyists across Trinidad searching for evidence of the continued existence of *Tapinauchenius* on the island. Interviewees speak highly of the species describing it as the "giant purple tarantula" and the "holy grail of Trinidadian spiders" although all admit to having never seen it themselves and knowing of it only from older accounts. Areas that they claim the species was once sighted are now either largely deforested or have high human disturbance.

Collectors describe it as being valuable in the trade and offer high prices for living specimens should any be found. *Tapinauchenius* specimens marketed as the "Trinidad Mahogany Tarantula" are readily available in the international pet trade although further interrogation into the origins of these specimens reveal that they typically originate from Guyana or Suriname. The name "Trinidad Mahogany Tarantula" appears to be a label broadly applied to any *Tapinauchenius* from northern South America.

The long absence of verified sightings on Trinidad raised concerns that the species may have been locally extirpated, possibly due to overcollection or habitat loss. Herein we present evidence of the continued survival of *T. latipes* on the island during a biodiversity survey in Maracas Trinidad, September 2025.

The 'Trinidad and Tobago Bioblitz' is an annual intensive biodiversity survey. Every year this coordinated event between the University of the West Indies and the Trinidad and Tobago Field Naturalists' Club is set at a different location. For the year 2025, the survey took place in the Maracas Region of Trinidad [671682E, 1187670N].

During September 2025 for the Bioblitz survey, the authors conducted an expedition to an area of virgin montane rainforest in the Maracas region for a general biodiversity survey. On a foray into the bush, SM encountered a young tarantula on the leaf of an epiphytic plant about 1.5m off the ground at 1907h. Its appearance was immediately striking and unlike any of the commonly encountered species on Trinidad (Fig. 1). The specimen possessed a deep black abdomen with iridescent green setae. The legs were a translucent blue with the front right leg absent. SM immediately suspected this to be the lost *Tapinauchenius* whose sentiment was later shared by BR. The specimen was photographed by BR and left undisturbed. There appeared to be no silk laid by the spider nearby when examining the plant. Such a find prompted SM to search for an adult specimen along trees.

Later that night at 2315h, SM sighted a large black spider at the entrance of its burrow made in a mat of moss. The dark coloration and highly iridescent legs confirmed that it was *Tapinauchenius*. Photos were taken in-situ before disturbing it (Fig. 2). To extract it, SM inserted his finger into the blanket of moss behind the tarantula while holding an open petri dish in front of the hole. Upon disturbance, the spider leapt out of the burrow and immediately curled its legs into a ball as it fell. Immediately after falling into the dish, SM covered it and the spider unfurled its legs, and ran around inside. A similar escape behaviour was noted by Klaas (2003) and Auer *et al.* (2007) from *Tapinauchenius* in Venezuela. The abdomen was a deep reddish brown and it

showed heavy blue and green iridescence on the underside of its legs. The cephalothorax appeared goldish green and the legs black with iridescent purple setae. The specimen was photographed (Fig. 3) and returned to the entrance of its retreat.

At 0041h another specimen very similar in appearance and size to the first was observed at the entrance of a heavily silked retreat made in a hollow log. The specimen retreated into the silk tube upon being approached by SM. The silk tube extended over 30 cm into the log and was only visible as the spider ran down through it. The tube was relatively well concealed with bits of decomposed wood stuck to it and despite being well exposed, would be invisible if one did not know of its existence prior. This specimen was left undisturbed. The same specimen was observed at the entrance of its silk tube at 0213h and again retreated upon being approached.

A subsequent survey was conducted by SM in October 2025 at the same site to search for additional individuals, using an LED headlamp to scan vegetation and tree trunks at night. The two subadult specimens from the previous survey were observed in the same dwellings. This survey yielded one additional specimen; a silk blanket was observed covering the opening of a tree crevice. Upon gentle prodding with a stick, the silk blanket was broken, and a spider was seen running through the silk-laden crevice. The individual was carefully coaxed from the retreat, after which it jumped out and was captured. The specimen was photographed and subsequently returned to its dwelling. Approximately 4.5 hours later, it was observed constructing a new silk barrier across the disturbed opening.

Fig. 1. Juvenile *Tapinauchenius latipes* from Maracas, Trinidad. Photo by Bryan Ramdeen.

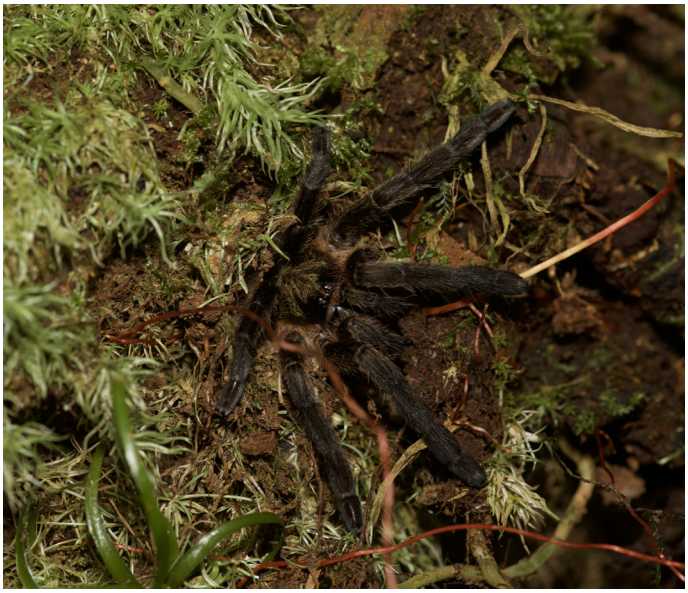

Fig. 2. Subadult *Tapinauchenius latipes* at the entrance of dwelling from Maracas, Trinidad. Photo by Bryan Ramdeen.

Fig. 3. Subadult *Tapinauchenius latipes* from Maracas, Trinidad. Photo by Bryan Ramdeen.

The rediscovery of this lost species on Trinidad reveals that it has persisted despite its absence from scientific records for over four decades. However, this finding raises several questions.

Firstly, why has *T. latipes* remained undetected in areas it has been historically collected such as the Arima Valley, despite extensive surveying? Hundreds of field hours in the Arima Valley by SM both during the day and

night, including in the forests around the Simla Biological Research Station, have yielded no specimens of this species. The absence of recent records from historically occupied sites suggests possible localised extirpation, perhaps due to habitat disturbance, climatic pressures, or overcollection for the pet trade. Other large arboreal Theraphosids such as *Psalmopoeus* (Ausserer, 1871) and *Avicularia* (Lamarck, 1818) remain observed with relative ease in these same habitats, raising questions about whether *Tapinauchenius* has unique ecological vulnerabilities. We observed other theraphosid species including *Schismatothele caeri*, *Trichopelma coenobita, Psalmopoeus cambridgei* and *Holothele longipe*s in the same area as the *Tapinauchenius* in this survey. Secondly, despite over 600 records of theraphosids from Trinidad on the citizen science platform, iNaturalist, there are no records of *Tapinauchenius* prior to the present discovery. This absence may indicate extreme natural scarcity, highly cryptic habits, simply no longer occurring in areas readily accessible to people or a combination of multiple.

Finally, this rediscovery emphasizes the importance of surveys such as the Trinidad and Tobago Bioblitz and the conservation of montane forest habitats. If *T. latipes* has indeed now become restricted to montane rainforests, they may face increased vulnerability to habitat loss, climate change or renewed collection pressures on this highly coveted species from the international pet trade. Specific locality data has been redacted to conserve the population from poachers and pressures from the pet trade.

The rediscovery of the Trinidad Mahogany Tarantula after over 40 years provides hope for its continued survival on Trinidad. Although confirmed as still extant in at least one location, its long absence from surveys in historically occupied habitats suggests extreme population declines and/or range contraction. Future action should prioritize systematic surveys to better understand the distribution and population trends of *T. latipes*, genetic and morphological confirmation of the species' identity and an evaluation of the threats of habitat loss and collection for the pet trade. We also suggest legal protection of *T. latipes,* perhaps by designation of this species as an Environmentally Sensitive Species. Protection of this iconic species will require coordinated efforts between naturalists, researchers and local authorities.

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Saifudeen M. Muhammad[1] **and Bryan Ramdeen**[2]

1. Trinidad and Tobago Field Naturalists' Club, Port of Spain, Trinidad. *saifudeenherpresearch@gmail.com*

2. Trinidad and Tobago Field Naturalists' Club, Port of Spain, Trinidad. *bryan-ramdeen@hotmail.com*