

## A male *Pelegrina galathea* with an aberrant palpus

Bruce Cutler<sup>1</sup> and Hank Guarisco<sup>2</sup>

<sup>1</sup> Department of Ecology & Evolutionary Biology, University of Kansas, Lawrence, Kansas 66045, USA, *email* dbronx@ku.edu, ORCID 0000-0002-7412-5266

<sup>2</sup> Lawrence, Kansas, USA, *email* hguarisco@fhsu.edu

**Abstract.** A male *Pelegrina galathea* with broken embolus was discovered from western Kansas. It is described to raise awareness that such deformities could result in a misleading identification.

The embolus of the male palp in spiders is the intromittent organ during copulation. In some cases the embolus or embolic tip is broken off during intromission, serving as a plug to prevent subsequent males from inseminating the females (Uhl et al. 2010). This process is essentially unknown in salticids. Only two cases have been documented, *Euryattus myiopotami* (Thorell) by Prószyński (1984a) and *Telamonia festiva* Thorell by Prószyński (1984b), and none in the large Salticoida: Marpissoida clade to which *Pelegrina* belongs (Maddison 2015).

Scattered reports of variant salticid palpi occur in the literature. Maddison (2015) noted the possibility of deformed palpi illustrated in two genera (*Phidippus* and *Tuviphantes*) in the same subtribe (Dendryphantina) to which *Pelegrina* belongs. In these palpi the entire palpal bulb structure was affected, not just the embolus. A series of male palpi of *Megafreya sutrix* (Holmgren) (as *Evophrys* s. Holmgren) were illustrated by Galiano (1963), showing a variety of different palpal bulb morphologies, particularly of the embolus. Numerous variant emboli were figured in Maddison's (2015) revision of *Pelegrina*, but none the same as the one illustrated here.

Cutler (1980) recorded several examples of apparently broken emboli in *Pelegrina insignis* (Banks) (as *Metaphidippus i.*), some of which resembled those of the closely related *Pelegrina montana* (Emerton) (as *Metaphidippus m.*), and could cause possible taxonomic confusion.

*Pelegrina galathea* (Walckenaer) is one of the most common low vegetation-associated jumping spiders in eastern North America east of the Rocky Mountains and south of ~43°N latitude (Maddison 1996). It has been evaluated in at least one study (Horner 1971 as *Metaphidippus g.*) as a biocontrol agent.

Here we report on a male *Pelegrina galathea* (KANSAS: Hamilton Co., Coolidge, 38°2'32"N, 102°0'37"W, June 24, 2005, HJG, beat shrubs) with an apparently broken right embolus (Figure 1). Unlike some of the previously mentioned *P. insignis*, this embolus resembles no other species of *Pelegrina*. None of the variant emboli figured in Maddison's revision of *Pelegrina* are the same as the one illustrated here. The closest is the embolus of western interior North American specimens of *P. aeneola* (Curtis), see Maddison (1996) fig. 209, but the one figured here lacks the extended basal portion. The left embolus (Figure 2) is within the normal range of the species. The overall somatic appearance (Figure 3) is of a typical male of the species from western Kansas, with some loss of the white scalation of the carapace. Identification based on this palpus alone could have resulted in a misleading identification.



**Figures 1-3.** Male *Pelegrina galathea* from Coolidge, Hamilton County, Kansas. **1**, Right male palpus, ventral view, with broken embolus. **2**, Left male palpus, ventral view, with normal embolus. **3**, Dorsal view of the specimen, length 4.2 mm.

### References

- Cutler, B. 1980.** Variation in the embolus of *Metaphidippus insignis* (Banks) (Araneae, Salticidae). *Journal of the New York Entomological Society* 87: 270–274.
- Galiano, M. E. 1963.** Las variaciones individuales en *Evophrys sutrix* Holmberg, 1874 (Araneae, Salticidae). *Revista de la Sociedad Entomológica Argentina* 24: 23-28.
- Horner, N. V. 1971.** The bionomics of the spider *Metaphidippus galathea* (Walckenaer) and its significance as a biological control agent in sorghum. Ph.D thesis, Oklahoma State University, 1-58.
- Maddison, W. 1996.** *Pelegrina Franganillo* and other jumping spiders formerly placed in the genus *Metaphidippus* (Araneae: Salticidae). *Bulletin of the Museum of Comparative Zoology, Harvard* 154: 215-368.
- Maddison, W. 2015.** A phylogenetic classification of jumping spiders (Araneae: Salticidae). *Journal of Arachnology* 43: 231–292.
- Prószyński, J. 1984a.** Atlas rysunków diagnostycznych mniej znanych Salticidae (Araneae). *Zeszyty Naukowe Wyższej Szkoły Rolniczo-Pedagogicznej w Siedlcach*. 1-177.
- Prószyński, J. 1984b.** Remarks on *Viciria* and *Telamonia* (Araneae, Salticidae). *Annales zoologici, Warszawa* 37: 421–423.
- Uhl, G., H. Stefan, S. H. Nessler and J. M. Schneider. 2010.** Securing paternity in spiders? A review on occurrence and effects of mating plugs and male genital mutilation. *Genetica* 138: 75–104.