

The full picture: Illustration of undescribed sexes within *Agyneta* (Araneae: Linyphiidae)

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Introduction

When a species only has one sex that has been collected or is underrepresented in collections it may only be described using one sex. An important part of description is the illustration or photography of species-specific structures such as genitalia. *Agyneta* Hull (Araneae: Linyphiidae) is a genus comprised of over 200 species of tiny spiders found across the northern hemisphere. Some species in this genus have only been described with one sex. With our recent discovery of both the male of *Agyneta longipes* and the female of *Agyneta okefenokee* the other half of these species could now be described. Illustrative plates for both species were made giving more insight to these undescribed sexes.



Figure 1: *Agyneta longipes* male, habitus



Figure 2: *Agyneta okefenokee* female, habitus

Methods

Illustration of both species utilized a dissecting microscope to view the specimens. Using the images from the microscope, sketches were created outlining the visible structures of the male palp of *Agyneta longipes* and the female epigynum of *Agyneta okefenokee*. These sketches were then cleaned up and checked against the specimen under the scope.

Methods (cont.)

Once finalized, shading was used to further show depth and to make specific important structures stand out. Shading was also used to illustrate membranous tissue present on the specimen. These images were then uploaded to Adobe Photoshop to line the drawing and finalize the illustrations. Then each view created was combined into one illustrative plate and labeled accordingly.

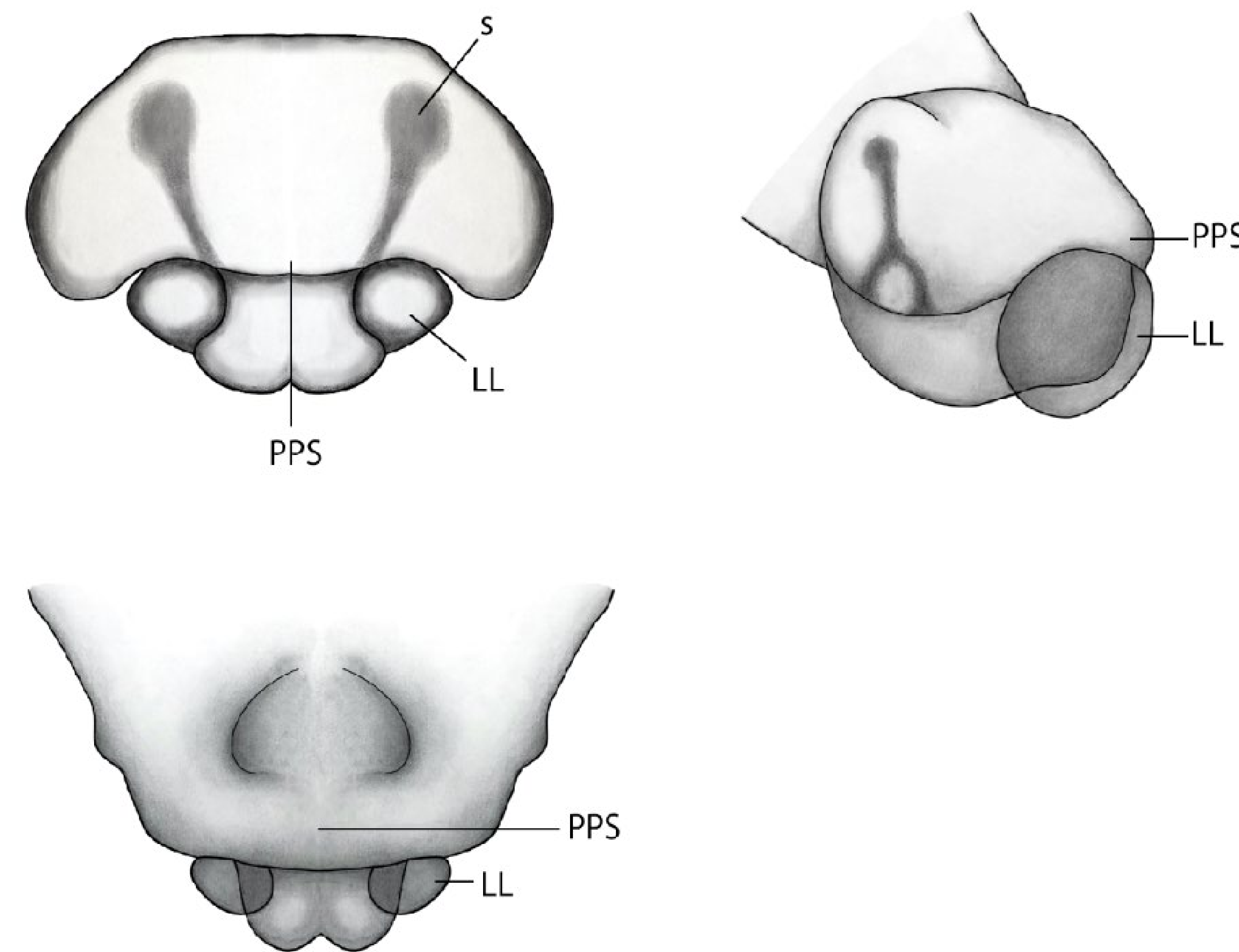


Figure 3: Female *Agyneta okefenokee* epigynum illustrative plate. LL: lateral lobe, PPS: proximal part of scape, S: spermathecae.

Results

We created two illustrative plates to give insights into the morphology of each species. Multiple views of the specimens were included to illustrate species-specific structures. In *A. okefenokee*, the position of the lateral lobes and proximal part of the scape are unique for the genus. In *A. longipes*, the position and shape of the retrolateral tibial bump (RTB) is unique to the genus.

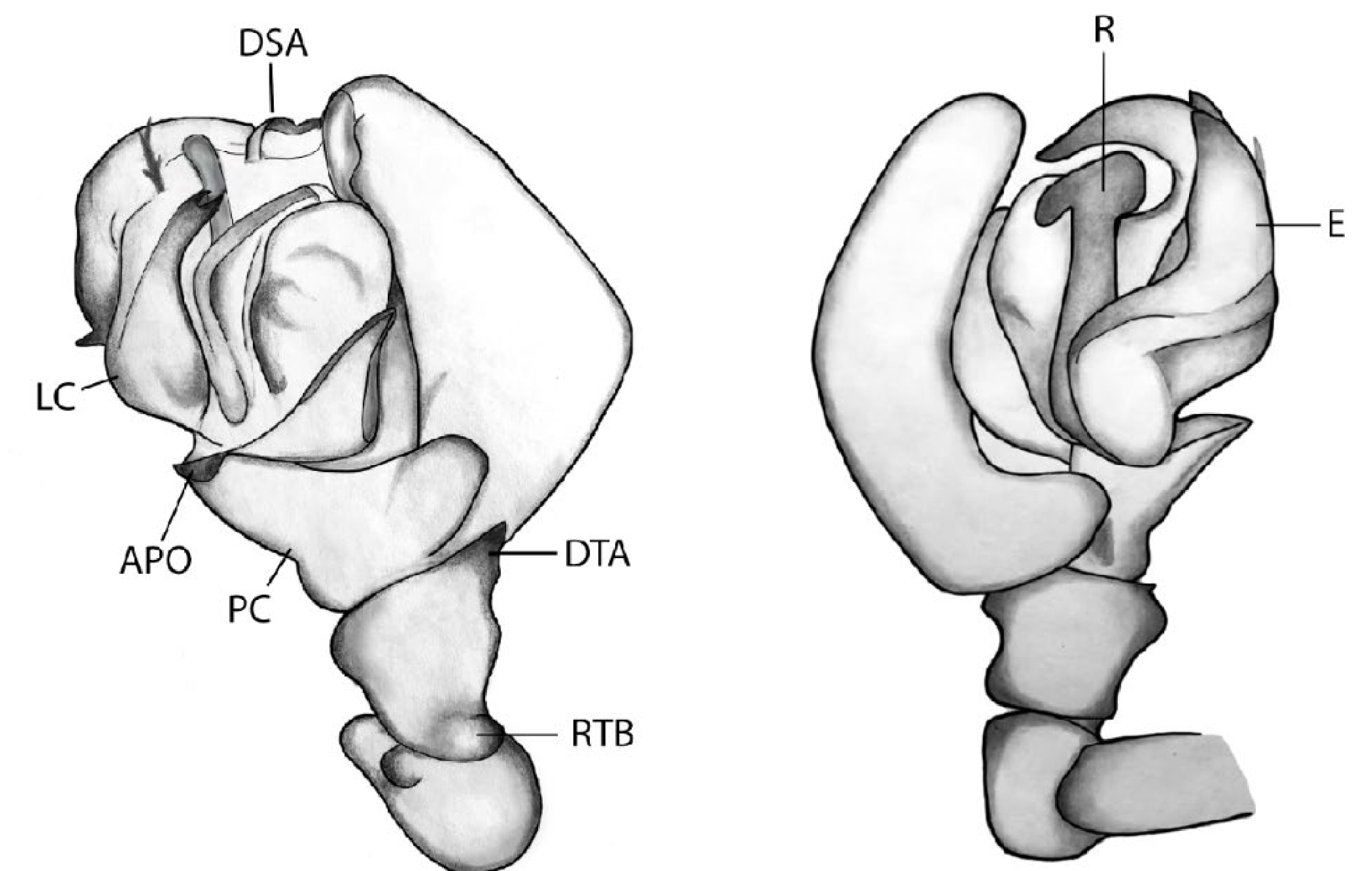


Figure 4: Male *Agyneta longipes* palp illustrative plate. APO: anterior pocket of paracymbium, DTA: dorsal tibial apophysis, DSA: distal subtegular apophysis, E: embolus, LC: lamella characteristica, PC: paracymbium, R: radix, RTB: retrolateral tibial bump.

Conclusion

We discovered and illustrated two undescribed sexes of the genus *Agyneta* Hull (Araneae: Linyphiidae). While previous descriptions exist for the species, they did not include both sexes. With the inclusion of the new illustrations, taxonomic differences become clearer and better allow us to differentiate this species from others in the genus. Moreover, the ability to more easily identify these southeastern USA species may lead to a better understanding of their habitats and the threats that surround them.

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