Anystidae Fact Sheet

Dean Gladish

Scientific Name: Family Anystidae **Common Name: Whirligig Mite**

Kingdom: Animalia
Phylum: Arthropoda
Class: Arachnida
Subclass: Acari
Order: Trombidiformes
Suborder: Prostigmata
Family: Anystidae
(EOL 2017).

Range and Habitat: The Anystid is present nearly everywhere on Earth. It is a predator of a wide range of small arthropods and thus can easily proliferate and control pests (Zhang 2003). The organism lives on exposed, dry surfaces including foliage, tree bark, and the ground (Walter 2005).

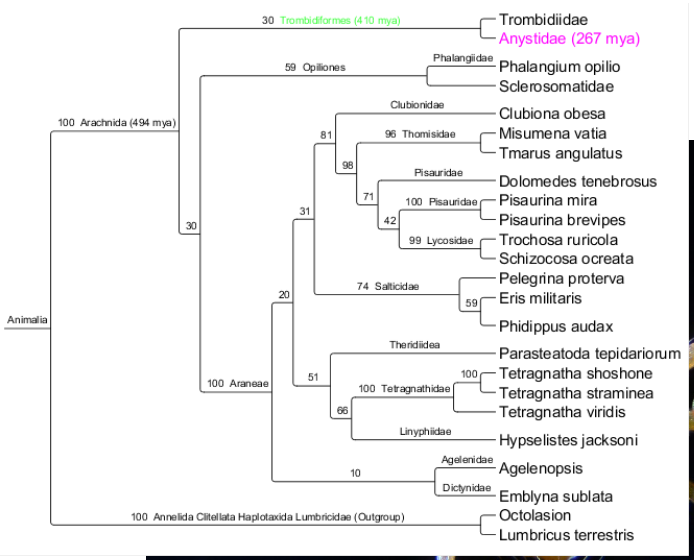
Distinguishing Characteristics: The Anystid is generally red or orange and quite small. The mite gets its common name from the fact that its long, well-developed legs extend outward from a single point on its body; this allows it to turn rapidly (BugGuide 2003). The rest of the body contains a large number of bristles.

The Order Trombidiformes and Taxonomy:

The Trombidiformes order is important because it contains some species such as eyelash mites and chiggers that are medically useful (iNaturalist 2017). The taxonomic tree below, determined using past samples of organisms taken from the Arboretum, is mostly accurate in its portrayal of relationships (Timetree 2017).

The jaws are separated, and each one of the mouth parts has two bristles. In conjunction with this are segmented pedipalps, each with three inwardly-facing spines on its fourth segment. The breathing apparatus is positioned near the base of the mouth, and is supported by short structures. The red mite undergoes egg, larva, nymph, and adult stages in its life cycle (Zhang 2003).

Additional Findings: There are 17 genera and 98 species present within the family Anystidae (Wikimedia 2017). Certain species are among the fastest invertebrates in the world – the mite *Paratarsotomus macropalpis*, for instance, has been recorded to move at 322 body lengths per second (ScienceDaily 2014).



In the Arb, our Bio 125 class has collected many different species; due to the small sample size and the limitations of barcoding, the genera and species obtained from Trombidiformes remain unidentified. Presently we have collected two distinct families – these are Anystidae and Trombidiidae. Between samples from these families, 30.9% of base pairs varied within the COI gene. It is interesting to note that between samples collected from Anystidae and the Family Sclerosomatidae of Opiliones (common name Harvestmen), only 30.3% of base pairs varied within the COI gene (Clustal Omega 2017).

(Images from D. Loarie)

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