

= Eucteniza =

Eucteniza (pronunciation : / ju?kt??na?z? / yewk @-@ t? @-@ NY @-@ z?) is a genus of trapdoor spiders in the family Euctenizidae containing at least 14 species occurring in Mexico and the southern United States . Species are distinguished by a softened rear portion of the carapace , and males possess large spines on the first two pairs of walking legs that are used to hold females during mating . Like other trapdoor spiders they create burrows with a hinged lid , from which they await passing insects and other arthropods to prey upon . Many species are known from only one or two localities , or from only male specimens . More species are expected to be discovered . Eucteniza is closely related to spiders of the genera Entychides and Neoapachella .

= = Description = =

Members of Eucteniza reach up to 27 @. @ 5 mm (1 @. @ 08 in) in body length (not including the legs) , which is relatively large to very large among spiders . The cephalothorax (the anterior body segment bearing the eyes , mouthparts , and legs) is oval , slightly longer than wide , and slopes considerably towards the rear when viewed from the side . The rear third of the carapace (the upper surface of the cephalothorax) is relatively soft , and is distinctly lighter in coloration . The carapace is often devoid of hairs , and in some species fringed with black bristles . The eight eyes are not elevated and are arranged in two rows in a rectangular area : the hind row is recurved , or slightly curved upwards (as in a bowl or shallow U) , while the anterior row is slightly procurved (slightly curved downwards , as in an inverted bowl) . Eucteniza spiders are colored in various shades of brown , with males generally appearing a dark reddish @-@ brown . The jaws (chelicerae) are dark brown . The abdomen sometimes has a dark brown blotch on the upper surface . Measurements of most species only refer to the cephalothorax , which is less variable than the abdomen : recorded cephalothorax lengths range from 3 @. @ 5 mm (0 @. @ 14 in) in *E. huasteca* to 11 @. @ 5 mm (0 @. @ 45 in) in *E. relata* .

In males , the tibiae (5th leg segments) of the first and second walking legs are swollen or enlarged in many species . Additionally , males possess one or two prominent spines , known as " mating claspers " on the first and second tibiae ; related genera possess claspers on the first pair of legs only . The size , number , and arrangement of these spines varies between species . Females have a double @-@ toothed groove that the fangs recede into , unlike that of any other euctenizid genus . Both sexes also possess " preening combs " , rows of stiff bristles on the rear legs .

= = Behavior = =

Like other trapdoor spiders , Eucteniza species construct burrows in the ground with a hinged lid , from which they wait to ambush passing prey . Burrows and prey have been studied in *E. relata* , and other species are believed to have similar behavior . The burrow consists of an un @-@ branched tube , lined with silk and soil , ranging from 7 to 25 cm (2 @. @ 8 to 9 @. @ 8 in) in depth . The burrow is covered with a cork @-@ like lid composed of silk and soil and hinged with silk . The bottom of the burrow accumulates molted exoskeletons and remains of prey , which include beetles , ants , and millipedes . Burrows of adults and juveniles have been found in close proximity , suggesting individuals do not disperse very far after hatching . Individuals in Texas disperse from their burrows between August and January , and hence are most often collected during this time . In Mexico , the dispersal period extends from June to January .

= = Habitat = =

The predominant habitat of Eucteniza is desert and tropical dry forest of Mexico and Texas . Specimens have been collected from elevations as low as 8 to 12 m (26 to 39 ft) above sea level (e.g. the Baja California species *E. cabowabo* , *E. diablo* , and *E. rosalia*) , to around 3 @, @ 300 m (10 @, @ 800 ft) (*E. relata* in northeastern Mexico) . Burrows are located on flat ground or slight

inclines . In southern Texas , *E. relata* may burrow in residential lawns , and may be particularly likely to be encountered after rains . *Eucteniza* spiders are generally difficult to find in the wild , and are rare in museum collections .

= = Predators = =

E. relata in Texas is thought to be preyed upon by tarantula hawk wasps in the genus *Pepsis* , which are known to paralyze tarantulas and other spiders to provide food for their young . Observations suggest female *Pepsis* seek out *Eucteniza* hosts and sting them in their burrows , leaving them paralyzed within .

= = Taxonomic history = =

The taxonomic history of *Eucteniza* spiders includes nearly 20 named species and four genera ; the three additional generic names are now considered taxonomic synonyms of *Eucteniza* , and several named species have similarly been determined to be synonyms of previously described species .

The genus *Eucteniza* was established by Austrian naturalist Anton Ausserer in 1875 with the description of *Eucteniza mexicana* . In 1895 , the English zoologist and reverend Octavius Pickard @-@ Cambridge described the new genera *Favila* and *Enrico* for the new species *relatus* and *mexicanus* , respectively . Shortly thereafter , the reverend 's nephew Frederick O. Pickard @-@ Cambridge transferred *F. relatus* to *Eucteniza* , rendering *Favila* a junior synonym of *Eucteniza* . Similarly , the elder Pickard @-@ Cambridge 's *Enrico mexicanus* was synonymized with *Eucteniza* in 2002 , which required a name change to avoid confusion with Ausserer 's *Eucteniza mexicana* . Thus *Enrico mexicanus* was given the replacement name *Eucteniza atoyacensis* .

In 1940 , the American biologist Ralph V. Chamberlin described *Astrosoga rex* , a new genus and species from Texas , while Willis J. Gertsch and Stanley Mulaik described *A. stolidus* , also from Texas . Both species of *Astrosoga* were transferred to *Eucteniza* in 2002 .

Many taxonomic changes occurred in a 2013 revision by American biologists Jason Bond and Rebecca Godwin . Twelve new species were described , many named after nearby localities , indigenous peoples , or Mexican historic figures . Namesakes of other species include the nightclub Cabo Wabo of Cabo San Lucas , and a character from *Battlestar Galactica* . Both *E. rex* and *E. stolidus* were synonymized with *E. relata* , and the previously described *E. atoyacensis* (Pickard @-@ Cambridge 's *Enrico mexicanus*) was declared a dubious name : since it was originally described based on a juvenile specimen , it is unclear whether it represents a distinct species . Thus , as of 2013 a total of 14 valid species are recognized .

= = Species and distribution = = =

The different species of *Eucteniza* are distinguished by differences in body size , limb proportions , number of tibial spines , and shape of female sperm receptacles , as well as geographic location . Most species are known from male specimens only , but *E. rosalia* and *E. panchovillai* are known only from female specimens . *Eucteniza* species are distributed throughout central and northern Mexico , much of Texas , and the lower part of the Baja Peninsula . Many species are only known from the type locality , the site where the type specimen or specimens were originally collected . The species with the largest range is *E. relata* , although Bond and Godwin assert the species is actually composed of multiple as @-@ yet @-@ unnamed cryptic species (distinct species erroneously grouped into one) that will require additional morphological or genetic research to distinguish .

= = Classification = =

Eucteniza is the type genus of the family *Euctenizidae* (the " wafer trapdoor spiders ") , a mygalomorph family formerly considered a subfamily of the *Cyrtachenidiidae* . Within *Euctenizidae* , *Eucteniza* is classified in the subfamily *Euctenizinae* . Earlier comparisons of morphological and

behavioral traits suggested the closest relative of *Eucteniza* is *Neoapachella rothi* , a forest dwelling spider found in Arizona and New Mexico , while more recent studies , including analyses of DNA similarities , suggest a closer relationship to *Entychides* , a genus with several species ranging from Arizona to Texas into Mexico .