

The Characteristic Features of *Arachnids* Belonging to Phylum *Arthropoda*

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Commentary

Received: 19-Oct-2022 Manuscript No. JZS-22-82487; **Editor assigned:** 24-Oct-2022, Pre QC No. JZS-22-82487 (PQ); **Reviewed:** 09-Nov-2022, QC No. JZS-22-82487; **Revised:** 16-Nov-2022, Manuscript No. JZS-22-82487 (A); **Published:** 23-Nov-2022, DOI: 10.4172/2321-6190.10.6.003

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DESCRIPTION

Arachnida is a class of joint-legged invertebrate animals (arthropods), in the subphylum *Chelicerata*. *Arachnida* includes, among others, spiders, scorpions, ticks, mites, pseudoscorpions, harvestmen, camel spiders and whip spiders. Almost all adult arachnids have eight legs, although the front pair of legs in some species has converted to a sensory function, while in other species, different appendages can grow large enough to take on the appearance of extra pairs of legs.

Arachnids are arthropods. Arthropods are characterized by segmented bodies, concerted accessories, and an exoskeleton. This exoskeleton or cuticle is composed of layers of waxes, proteins and chitin. Chitin, which is composed of an outgrowth of glucose (N-acetylglucosamine) is combined with other substances that enhance its function as defensive armor. In numerous terrestrial arthropods similar as insects and *arachnids*, the chitin is bedded in a proteinaceous matrix of sclerotin, it becomes tougher, harder and darker in a process called tanning. Incontinently after molting, arthropods are pale and their cuticle is soft. The cuticle darkens and hardens over the course of hours or days as the sclerotin proteins cross-link. In other arthropods similar as *crustaceans*, calcium carbonate is combined with the chitin in a process of bio-mineralization. This gives the *crustacean* the perfect armor combining hardness and resiliency. The major debit of exoskeleton is that the arthropod must exfoliate in order to grow in size. Molting is a parlous business; the arthropod is susceptible to predation during this time and occasionally the process of exfoliating itself can lead to injury or death. Despite this, arthropods have been extraordinarily successful from an evolutionary perspective.

Arthropods make up more than 80 of all known species of creatures, with further than a million described species and millions more yet to be described. Included in this group are hexapods (six-lawful arthropods similar as insects

and springtails), *crustacean*, *myriapods* (centipedes and millipedes) and the *chelicerata* (including horseshoe crabs, *arachnids* and ocean spiders). *Arachnids* have two main body sections (also known as tagmata) and six dyads of introductory accessories. The front of the body is called the prosoma or the cephalothorax; it includes both the head and the throat fused together. The reverse of the body is the opisthosoma or the tummy; it contains utmost of the reproductive and food storehouse capacity. In some *arachnids* these body divisions are easily apparent but in others (similar as diminutives and harvestmen) the two body divisions combine together without a clear line of discrimination. Utmost *arachnids* have six dyads of accessories at maturity. First and foremost are the accessories that give the subphylum *chelicerata* its name the *chelicerae*. The most common form of *chelicera* is a brace of claws conforming of a fixed upper cutlet and a portable lower cutlet. Because the *arachnid* has a brace of *chelicerae*, it thus has two of these “hands” each with its own complement of fitters.