

FINE STRUCTURE AND FUNCTIONAL MORPHOLOGY OF THE SPERMATODACTYL IN MALES OF HETEROZERCONIDAE (GAMASIDA)

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ABSTRACT - At present, little is known about the biology of Heterozzerconidae (Heterozzerconina), a very interesting family of gamasid mites. They are podospermic with males having the genital orifice in pre-sternal position and with a sperm transfer process on the chelicerae. This spermatodactyl arises near the basal region of the fixed digit and seems to have a helicoid "duct." Since they are podospermic, the females show a sperm access system as well. On the other hand, Discozerconidae (also in Heterozzerconina) show a slender spermatodactyl arising from the movable digit.

Other families among Gamasida have males whose chelicerae are modified as gonopods involved for a direct sperm transfer. Even though behavioral observations support the idea that gonopods are involved in collecting the spermatophores from the male genital opening and transferring them into the female body, still, little is known on the functional morphology and ultrastructure of these gonopods.

Here, a preliminary description of the morphology, fine structure and organization of the gonopods in males of Heterozzerconidae is reported and the possible functional implications are discussed. Since the position of Heterozzerconina has been one of the least understood questions in gamasid systematics, comparing the ultrastructure and organization of the spermatodactyl in Heterozzerconidae males with gonopods in other families among gamasid mites (Phytoseiidae and Veigaiidae) might help in better understanding their position in the group.