

## **Abstract**

The biggest problem that terrestrial animals have to deal with is the risk of dehydration. Water is lost by evaporation during respiration and through the body surface, during excretion and various secretions. Terrestrial animals developed various physiological, morphological and behavioral adaptations against water loss. This work summarizes the knowledge about adaptations against water loss in arthropods in arid environmental conditions. It focuses on arachnids and especially on scorpions, which are widespread in arid areas and show high resistance to extreme desert conditions. The work examines the influence of environmental conditions on physiological processes in the body, morphological adaptations and behavioral changes. It defines specific adaptations of scorpions and describes in more detail the role of the hepatopancreas in maintaining the balance of fluids in the body and the subsequent changes in the osmolarity of hemolymph.

Key words: evaporation, aridity, water balance, arthropods, arachnids, scorpion