

The ability of certain species of parasitic nematodes to survive desiccation for considerable periods is a fascinating example of adaptation to the demands of fluctuating environments that occasionally can become extreme and life threatening. Behavioural and morphological adaptations associated with desiccation survival serve primarily to reduce the rate of drying, either to prolong the time taken for the nematode's water content to reach lethal low levels or, in true anhydrobiotes, to enable the structural and biochemical changes required for long-term survival to take place. Examples of these adaptations are reviewed, together with information on the factors involved in rehydration that ensure successful exit from the dormant state. Information on desiccation survival is central to effective management and control options for parasitic nematodes. It is also required to assess the feasibility of enhancing the longevity of commercial formulations of entomopathogenic nematodes, both before and after application; current research and future prospects for enhancing survival of these bio-insecticides are discussed.