

The role of land snails in the propagation of nematodes from the Metastrongyloidea superfamily

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Land snails often found in our neighbourhood are interesting component of our environment (gardens, parks, meadows, forests), they can also be a pest in gardens and flowerbeds. There is also a third side of which little is known. These are parasites for which the snail is an intermediate or final host.

Animals, including humans, get infected by eating infected intermediate or paratenic hosts. Another way of infection can be eating contaminated food or drinking water in which parasitic larvae are present (contamination). Conducted research allowed to understand the genus and generic composition of nematodes from the Metastrongyloidea superfamily in land snails and to determine the participation of molluscs in the circulation of parasites in the natural environment of selected positions in our country.

543 land snails belonging to 9 species were tested: *Succinea putris*, *Zonitoides nitidus*, *Faustina faustina*, *Arianta arbustorum*, *Helix pomatia*, *Cepaea vindobonensis*, *Cepaea nemoralis*, *Cepaea hortensis*, *Fruticicola fruticum*.

4512 (Metastrongyloidea) nematode larvae were obtained. The most infected snail was a shrub snail (*Arianta arbustorum*), in which we observe the highest prevalence of infection (over 20%), and also the highest intensity of infection, 1760 larvae of *Crenosoma striatum* nematodes in one individual.

The larval forms of presented parasites (Metastrongyloidea) are occurred as the adult forms in wild and domestic animals, finding in various internal organs (lungs, heart, frontal and nasal sinuses).

Experiments on infection and passage of nematodes in snails have been successful carried out with the species *Arion lusitanicus* and *Cepaea nemoralis*, which clearly indicate that the circle of intermediate hosts in the parasite's development cycle does not have to be limited to one snail individual. Invasive larvae L3 can pass actively or through contaminated food with the snail mucous trails or balls from one to another snail while remaining in the same stage of development. This phenomenon increases the number of potential hosts of the parasite and increases the risk of infection for the final host.

The state of knowledge about helminthofauna of land snails in Poland is fragmentary and mainly covers research which were conducted using classical parasitology methods. The results obtained, extended with molecular research, complement the current state of knowledge, not only in the aspect of research on parasites and their hosts (circulation of parasites in the envi-

ronment) but also show the impact of climatic factors (long-term drought) that have a significant impact on the biology and ecology of the host-parasite system.

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