Abstract

Cercarial dermatitis caused by bird schitosomes is in focus not only by scientists, but also by the general public. The disease has medical and economic impact, and it is responsible for financial losses in many resorts all around the world. Only some causative agents of the disease are known, because of parasite cryptic life style and biology (e.g. size and location of adults in the definitive host; gonochorism) and inaccurate descriptions in the past. With the onset of modern molecular methods taxonomic revisions of old species of bird schistosomes and descriptions of new ones are of top interest.

In Europe pulmonate snails are used by bird schistosomes as intermediate hosts, with some exceptions. Descriptions of new species and genera were recently focused on findings from lymnaeid molluscs, in which the genus *Trichobilharzia* (the most significant causative agent of cercarial dermatitis) is often developing. Therefore, less attention was paid to the snails of the family Planorbidae.

Planorbid snails are most commonly infected by the species of *Bilharziella polonica,* its typical host in Europe is *Planorbarius corneus*, less common hosts are *Planorbis planorbis*, *Bathyomphalus contortus* or *Anisus vortex*. *B. polonica* is spread all over the world. There are also known findings from the Czech Republic. Another well-known blood fluke from the snails of the family Planorbidae is *Dendritobilharzia pulverulenta*. It was found in the snails of *A. vortex* and *P. planorbis* in Poland. Occurrence of *D. pulverulenta* is cosmopolitan. *Gigantobilharzia mazuriana* found in the snail of *A. vortex,* or *G. suebica* discovered in the snail of *A. vortex* are less frequently found; *Gigantobilharzia* spp. has a cosmopolitan occurrence.

In the paper published in Parasitology International and presented within the framework of this thesis, it has been disclosed that six undescribed species of bird schistosomes can develop in four species of planorbid snails (*A. vortex*, *Segmentina nitida*, *Gyraulus albus* and *Planorbis planorbis*). Among these findings were discovered four new undescribed genera (three in the snails of *A. vortex* and one in the snail of *P. planorbis*) and one new species belonging to the genus *Gigantobilharzia* (the finding in the snail of *G. albus*). The finding in the snail of *S. nitida* is the first report of a bird schistosome from this snail. It can therefore be concluded that planorbid snails serve as hosts of several schistosome species; pathogenicity of these schistosomes and role of planorbids as vectors need to be characterized in future studies.

Keywords:

Cercarial dermatitis, Planorbidae, taxonomy, *Trichobilharzia*, molecular analysis