

# ON SPECIFICITY OF HELMINTHS

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## SUMMARY

It is impossible to present in a short paper all ideas concerning specificity of helminths. For this reason, only some results of studies carried out in the Department of General Biology and Parasitology of the Medical Academy in Warsaw will be discussed.

As criteria for the determination of host specificity the following characteristics of the parasites have been studied.

1. *Extensivity and intensity of natural invasion.* The majority of Hymenolepididae species parasitizing Anseriformes show narrower specificity than it was expected according to the rule of Fuhrmann (i.e., a specificity towards the order of final hosts.). In many papers and handbooks, an opinion can be found that Hymenolepididae have sometimes wide specificity not only towards the order of final host. But how can we distinguish the specific and non-specific host after having found a parasite in it especially, if the occurrence of the parasite in the host is rather rare? It is proposed that a host can only be regarded as specific for a particular species of parasite if its life cycle can be completed and full development of successive generations can be assured. Consequently, we must complete our knowledge by:

2. *Experimental studies on:*

a) regularity of growth and development under comparable conditions can serve as specificity criterion on *A. anseris* but not in *D. stefariski*.

b) degree of adaptation of the parasites to hosts of different species, strains, age and sex.

c) time of development and longevity of the parasite.

3. *Topospecificity and morphological variability under natural and experimental conditions*

a) topospecificity may be helpful in the determination of the parasite species from the ecological point of view.

b) morphological variability of the most stable feature of Hymenolepididae (size and shape of the stellar hooks) and little known feature—the envelope of the oncosphera have been studied.

## **Conclusion**

Not only the natural occurrence of the parasite is important in the determination of its specificity, but experimental studies on its growth and development, topospecificity and morphological variability in hosts of different species, strains, age and sex are very useful too.