

## IS THE SPECIES *MONIEZIA TRIGONOPHORA* (CESTODA, ANOPLOCEPHALIDAE) A PARASITE OF *RUPICAPRA RUPICAPRA* (BOVIDAE) IN THE CZECH REPUBLIC?

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### Abstract

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A revision was performed of the material of tapeworm *Moniezia trigonophora* Stiles et Hassall, 1893, the finding of which in the territory of the Czech Republic in the host *Rupicapra rupicapra* (L., 1758) was mentioned by Lamka et al. (2007a, b).

After the revision of the material the species *M. trigonophora* is not a parasite of *R. rupicapra* in the Czech Republic but tapeworms from *M. benedeni* species complex parasitize this host in Lusatian Mountains (compare in Kotrlý and Kotrlá-Erhardová, 1970).

*Moniezia trigonophora*, *M. benedeni*, Cestoda, *Rupicapra rupicapra*, Bovidae

During handling parasitological material from the Czech Republic and Germany, an exchange happened in the laboratory, when samples were stained or dried in the thermostat. After the revision of the material we correct the former communication (Lamka et al., 2007a, b).

The present study is also completed by the discussion on the taxonomic position of *M. trigonophora*.

### MATERIAL AND METHODS

For this study, the following tapeworm material was used:

- 1) Tapeworms from the group *M. benedeni* (Moniez, 1879) species complex, host *R. rupicapra*, Czech Republic – Lusatian Mountains, lgt. Lamka; 4 specimens, determination according to Spasskii (1951), Ryšavý and Erhardová (1953)
- 2) *Moniezia trigonophora*, from the group *Moniezia expansa* (Rudolphi, 1805) species complex, host *R. rupicapra*, Germany, lgt. Rehbein; 2 specimens, determination according to summarizing literature, see Discussion below.

Specimens used for morphological analysis were stained with borax-carmin (Jírovec, 1948). Vaucher specimens of cestodes were deposited in the collection of the Faculty of Pharmacy, Charles University, Hradec Králové.

### RESULTS AND DISCUSSION

The determination of *Moniezia* species by morphological observations is very difficult, many controversial opinions exist on the validity of any species or individual features.

Of a number of views, we draw attention, e.g., to the studies by Stiles and Hassall (1893), Theiler (1924), Taylor (1928), Baer (1927), Spasskii (1951) and others (see below). Accordingly, a superspecies or species complex is documented (Ba et al., 1993) in the case of the frequently determined species *Moniezia expansa* and *M. benedeni*. Another objective example can be presented just in *Moniezia trigonophora* Stiles et Hassall, 1893. In the case of the latter species, the authors, e.g., Theiler (1924), Baer (1927), Sprehn (1932), Neveu-Lemaire (1936), Joyeux and

Baer (1936), Skrjabin and Schulz (1937), López-Neyra (1954) and Yamaguti (1959) consider designated species to be valid. On the contrary, Taylor (1928) and Spasskii (1951) regard it as a synonym of *M. expansa*.

A disadvantage for definitive decision is an absence of together morphological/anatomical and molecular analysis till this time. The molecular data were published separately (Johnson and Hoberg, 1989; Ba et al., 1993; Nickisch-Rosenegk et al., 1999).

As well, a serious assessment of the shape of scolex, cirrus and neck is lacking as yet. Also the eventual

host-specificity of individual species has not been elucidated completely.

At the existence of extremely uncertain taxonomic situation we consider conditionally, in the presented study, the tapeworm *M. trigonophora* to be a valid species, when we may accept the opinion that *M. expansa* and *M. benedeni* are species complex; with relationship *M. trigonophora* to *M. expansa*.

In total, the prospective species *M. trigonophora* is not a parasite of *R. rupicapra* in the Czech Republic but *M. benedeni* species complex is the parasite of this host (compare in Kotrlý, Kotrlá-Erhardová, 1970).

## SOUHRN

### Je druh *Moniezia trigonophora* Stiles et Hassall, 1893 (Cestoda, Anoplocephalidae) cizopasníkem kamzíka horského (Bovidae) v České republice?

Revizí publikovaného materiálu (Lamka et al., 2007a, b) bylo zjištěno, že při společném zpracovávání materiálu tasemnic od hostitele *R. rupicapra* z České republiky a Německa došlo k jejich záměně. V České republice je parazitem kamzíka horského tasemnice *Moniezia benedeni* a ne *M. trigonophora* (viz též Kotrlý, Kotrlá-Erhardová, 1970).

*Moniezia trigonophora*, *M. benedeni*, Cestoda, Anoplocephalidae, kamzík horský, *R. rupicapra*, Bovidae

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