



Title	INTER- AND INTRASPECIFIC VARIATION OF TAENIID CESTODES, SPECIALLY GENOMIC DNA RESTRICTION FRAGMENT LENGTH POLYMORPHISMS
Author(s)	AZUMA, Hiroshi
Citation	Japanese Journal of Veterinary Research, 37(2), 103-103
Issue Date	1989-06-20
Doc URL	<a href="http://hdl.handle.net/2115/3145">http://hdl.handle.net/2115/3145</a>
Type	bulletin (article)
File Information	KJ00002377248.pdf



[Instructions for use](#)

INTER-AND INTRASPECIFIC VARIATION OF TAENIID CESTODES,  
SPECIALLY GENOMIC DNA RESTRICTION FRAGMENT  
LENGTH POLYMORPHISMS

Hiroshi AZUMA

*Department of Parasitology  
Faculty of Veterinary Medicine  
Hokkaido University, Sapporo 060, Japan*

The morphological, biological and biochemical characteristic of larval *Taenia taeniaeformis* isolated from *Clethrionomys rufocanus bedfordiae* in Hokkaido, Japan (Crb isolate) and from *Rattus norvegicus* in Hokkaido (Rn isolate) and in Malaysia (MRn isolate), and from mouse in Belgium (BMc isolate) were compared. Infectivity to various rodents of the 4 isolates of *T. taeniaeformis* were determined. Wistar rats were more susceptible to Rn and MRn isolates, *C. rufocanus bedfordiae* was more susceptible to Crb isolate and BMC isolate was infective only in the mice, not in the rats nor *C. rufocanus bedfordiae*. The morphologies of the rostellar hooks of the 4 isolates were compared. Differences in the length and shape of the small hooks were observed between the Crb isolate and the other 3 isolates. Moreover, the length of the large hooks of the Rn isolate was shorter than that in the other 3 isolates. SDS-PAGE of soluble protein of the 4 isolates was performed. Almost all bands were common in the 4 isolate, but a few isolate-specific bands were observed. The restriction fragment length polymorphisms in repetitive DNA were observed using 7 restriction endonucleases. The patterns of the major bands obtained for each endonuclease were similar in each of the 4 isolates. However, the 5 kb band in Crb isolate was observed at a slightly higher position than in the other 3 isolates in the *Bam*HI and *Eco*RI digests. The major *Pst*I band near 4 kb was characteristic of BMC isolate. Moreover, in Rn isolate, the band of over 9 kb was faint compared with the other isolates and that under 9 kb was brighter than in the other 3 isolates in the *Hind*III digests. In conclusion, Rn isolate and MRn isolate were nearly identical, but both BMC isolate and Crb isolate were differentiated from the other 3 isolates. These comparisons were performed with 2 isolates of *T. crassiceps* and 3 isolates of *Echinococcus multilocularis* as well.