Ashworthius sidemi (Nematoda, Trichostrongylidae) in wild ruminants in Białowieża Forest

A.W. Demiaszkiewicz¹, J. Lachowicz¹, B. Osińska²

¹ W. Stefański Institute of Parasitology, Polish Academy of Sciences, Twarda 51/55, 00-818 Warsaw, Poland
² Faculty of Veterinary Medicine, Warsaw University of Life Sciences, Nowoursynowska 159 c, 02-776 Warsaw, Poland

Abstract

Between 2003-2007, abomasa of 91 European bison (Bison bonasus), 4 red deer (Cervus elaphus) and 2 roe deer (Capreolus capreolus) shot in the Białowieża Primeval Forest (Poland) were examined for worms presence. All the animals examined were infected with nematodes A. sidemi with an exception of one bison, that was shot in year 2003. There was much higher average intensity of invasion in bison (5529), than in red deer (85) and in roe deer (1837). The animals were shot in a period from December to March, and the nematodes found in them were fourth stage larvae and immature adult specimens. In the following years of examinations, a gradual increase in average intensity of infection was observed. In 2007, it reached in bison 10814 nematodes. Maximum intensity of invasion was found in this year as well and it reached 44310 nematodes in one bison. Pathological changes such as an oedema, hyperaemia and effusion in the abomasum and duodenum mucosa were most clearly seen in the calves that were highly infected. These changes probably lead to chronic diarrhoea, deterioration and deaths of young animals.

Key words: nematode expansion, European bison, cervides

Introduction

Ashworthius sidemi – a blood-sucking abomasal nematode is a typical parasite of Asiatic deer (Cervus (Rusa) unicolor) (Dróżdż 1973), but mainly also of sika deer (Cervus nippon) via which it was introduced into many countries of the former Soviet Union, including Byelorussia and Ukraine, as well as Slovakia, Czech Republic and France (Schulz 1933, Pryadko et al. 1964, Ovcharenko 1968, Kostyaev 1971, Kotrla and Kotrly 1973, Nazarova 1973a, b, Kotrla and Kotrla 1974, Kotrla et al. 1976, Kotrla and Kotrly 1977, Ferte and Leger 1986, Ferte 1987, Ferte and Durette-Desset 1989, Ferte 1991, Kochko 2004). As a result of the introduction of sika deer into these countries, A. sidemi has colonised local ruminant species like red deer, roe deer, elk and mouflon. Research have shown that sheep are highly susceptible to this nematode species (Kotrla et al. 1976). In the last decade, helminthofauna of the European bison, red deer, fallow deer, elk and roe deer in the Polish territory have been studied (Dróżdż 1961, 1966, 1967, Dróżdż et al. 1987, 1989 a, b, 1992, 1993, 1994 a, b). However infections with A. sidemi, were not determined.