

## Prevalence of Liver Fluke Infections in Slaughtered Animals in Trakya (Thrace), Turkey

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**Abstract:** This study was carried out to determine the prevalence of liver fluke infections in cattle and sheep in Trakya (The European Part of Turkey). For this purpose the slaughterhouses of different localities (Tekirdağ, Hadımköy, Lüleburgaz, Çorlu, Kırklareli and Keşan) were visited between 03.03.1997 and 22.10.1997, and a total of 476 sheep and 415 cattle livers were examined. The prevalence rates of fasciolosis hepatica and dicrocoeliosis dendriticum were 3.99% and 23.55% in sheep, and 0.48% and 2.65% in cattle respectively. No changes in livers, which led to the partial or total condemnation, were observed.

**Key Words:** Prevalence, *Fasciola hepatica*, *Dicrocoelium dendriticum*, Cattle, Sheep, Turkey

### Trakya'da kesilen koyun ve sığırlarda karaciğer trematod enfeksiyonlarının yaygınlığı

**Özet:** Bu çalışma Trakya'da koyun ve sığırlarda karaciğer trematod enfeksiyonlarının yaygınlığını bulmak amacıyla yapılmıştır. Bu amaçla 03.03.1997 ve 22.10.1997 tarihleri arasında Tekirdağ, Hadımköy, Lüleburgaz, Çorlu, Kırklareli ve Keşan mezbahalarına gidilerek toplam 476 koyun ve 415 sığırın karaciğerleri kesim sonrasında incelenmiştir. Çalışmada fasciolosis hepatica ve dicrocoeliosis dendriticum'un yaygınlığı koyunlarda sırasıyla %3.99 ve %23.52, sığırlarda %0.48 ve %2.65 bulunmuştur. Karaciğerlerde kısmen veya tamamen imhayı gerektirecek bozukluğa rastlanmamıştır.

**Anahtar Sözcükler:** Yaygınlık, *Fasciola hepatica*, *Dicrocoelium dendriticum*, Sığır, Koyun, Türkiye

### Introduction

*Fasciola spp.* and *Dicrocoelium dendriticum* are found in many parts of the world (1). In chronic infections, these parasites cause bilier cirrhosis in livers of cattle and sheep and lead to economic losses (2-4). *Fasciola spp* and *D. dendriticum* also occur in Turkey (5). In the last decade, various studies (6-10) about the prevalence of fasciolosis and dicrocoeliosis in cattle and sheep has been conducted on different parts of Turkey.

Only one study (6) conducted in Trakya (The European Part of Turkey) is available that give the results of prevalence rates of these infections in cattle. But, this study didn't comprise of the animals came from only Trakya.

### Materials and Methods

This study was carried out in the slaughterhouses of different localities (Tekirdağ, Hadımköy, Lüleburgaz, Çorlu, Kırklareli and Keşan) in Trakya. One slaughterhouse was paid a visit monthly between

03.03.1997 and 22.10.1997 and the livers of slaughtered cattle and sheep were examined. All animals examined were from Trakya. Age of animals was recorded as one year and over. A total of 476 sheep and 415 cattle livers were examined. More than 90% of cattle were Holstein, the rest Yerlikara in breed. All sheep were Kıvırcık in breed.

Liver was examined according to the method described by Ogamba-Ongoma (11) and the parasites were identified by the morphological peculiarities (1, 12).

### Results

Two species of liver fluke, *Fasciola hepatica* and *Dicrocoelium dendriticum*, were encountered in this study. Parasite numbers obtained from one cutting surface of liver were about 5-10 for *D. dendriticum* and 1-2 for *F. hepatica*. No changes in livers, which led to the partial or total condemnation, were observed.

The number of examined and infected animals, and the prevalence rates were given in Table.

Age (year)	Sheep					Cattle				
	E	F	F%	D	D%	E	F	F%	D	D%
<1	361	16 <sup>a</sup>	4.43	56	15.51	71	0	0	1	1.40
>1	115	3 <sup>a</sup>	2.60	56	48.69	344	2 <sup>b</sup>	0.58	10	2.90
Total	476	19 <sup>a</sup>	3.99	112	23.52	415	2 <sup>b</sup>	0.48	11	2.65

Abbr. No of examined (E), F. hepatica-infected (F) and D. dendriticum-infected (D) animals.

<sup>a</sup> All animals infected with F. hepatica+D. dendriticum.

<sup>b</sup> One animal infected with F. hepatica+D. dendriticum

## Discussion

Toparlak et al. (9) reported that out of 495 cattle liver, 53.7% were infected with *F. hepatica*, 36.1% with *D. dendriticum* and 1.8% *F. gigantica* in the abattoir in Van (a city in the eastern part of Turkey). In the same place, *F. hepatica* was found in 15.9%, *D. dendriticum* in 53.3% and *F. gigantica* in 0.29% of inspected sheep livers (10).

In another study (7) based on faecal examination in Samsun (a city in the northern part of Turkey), *Fasciola spp.* was found in 20.99% and *D. dendriticum* in 58.29% of sheep. In another study (8) made in the same place, *F. hepatica* was encountered in 25.3% and *D. dendriticum* in 74.6% of cattle livers.

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Table 1. The prevalence rates (%) of liver fluke infections in slaughtered animals

Metenawy and Vuruşaner (6) were reported that out of 520 cattle came from Adıyaman province (in the southeastern part of Turkey) and Trakya, 1.2% were found to be infected with *F. hepatica*, 0.8% with *F. gigantica* and 1.7% with *D. dendriticum*.

In our study, in Trakya, *F. hepatica* was found in 3.99% out of 476 sheep, *D. dendriticum* in 23.55% out of them and *F. hepatica* in 0.48% out of 415 cattle and *D. dendriticum* in 2.65% out of them. These prevalence rates were found to be lower than those of other studies (7-10) in this country, except that of Metenawy and Vuruşaner (6). In addition, no partial or total condemnation of livers due to these infections was observed in this study. It seems that the fluke infections of slaughtered animals in Trakya are not of importance at present.

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