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TICK FAUNA OF GOAT AND SHEEP IN BELGRADE AREA

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Abstract

The study about tick fauna and season distribution of tick of small ruminant at spread Belgrade area was started in March and finished in November 2011. During study we examined a total of 91 flocks of goats and sheep from 6 Belgrade districts. In total we examined 281 sheep and 122 goats. Ticks infestation we occurred at 169 (60.14%) sheep and 42 (34.42%) goats. Most abundant were Ixodes ricinus, followed by Dermacentor marginatus, Rhipicephalus sanguineus, R.bursa, Haemaphysalis punctata, D.recticulatus.

Key words: *ticks, goats, sheep, Belgrade area.*

INTRODUCTION

Breeding of sheep and goats were increased during last decade on Belgrade area. Today, small flocks of sheep and goats play an important role in providing animal protein for diet, especially for those people who live in village at mountains part of Belgrade area. They are usually kept under extensive conditions and graze or brows on any land that is not being cultivated (Pavlovic et al. 2009).

Way of breeding had prerequisite to a lot of infections including parasites. Examination of goats and sheep parasitizes were only sporadically performed at last 20 years in Serbia and we had only a few paper about it. Most of the research related to helminthes infection (Pavlovic et al. 2011a,b). At the same time, survey of the fauna and ectoparasites are almost done and we are only sporadic presence of certain species of arthropods in sheep and goats (Pavlovic et al.1995, 1997).

In pasture breed condition tick infestation are common especially during late spring and autumn months (Pavlovic et al.1995, Milutinovic et al. 1998) and aim of our examination are to established tick fauna at flocks of goats and sheep in Belgrade area.

MATERIALS AND METHODS

The study about tick fauna and season distribution of tick of small ruminant at spread Belgrade area was started in March and finished in November 2011. During study we examined a total of 91 flocks of goats and sheep from 6 Belgrade districts. In total we examined 281 sheep and 122 goats. Ticks were collected from sheep and goats by means lightly sprung forceps. All specimens were placed into glass specimen bottles which had a piece of hard paper inserted bearing the name of locality name of host and date and hour of collection. The tick species were detected using keys given by Pomerancev (1950) and Kapustin (1955).

RESULTS AND DISCUSSIONS

Ticks infestation we occurred at 169 (60.14%) sheep and 42 (34.42%) goats. Most abundant were *Ixodes ricinus,* followed by *Dermacentor marginatus, Rhipicephalus sanguineus, R.bursa, Haemaphysalis punctata* and *D.recticulatus.* The collected tick specimens, a total of 2768 were adult′s females and males belonged to the *ixodidae* family.

The population dynamics of recorded tick species are known for their two maxima a year- in spring (April-May) and in autumn (September-October). The considerable interchange between spring and autumn tick populations can be attributed mainly to environmental conditions. The population maximum for three species *Dermacentor marginatus, D.recticulatus* as well as *Haemaphysalis punctata* occured in April. May was the month of the population peak for

I.ricinus and it was noted that this species started to decrease in abundance in June. R.*hipicephalus sanguineus* and *R.bursa* reached their maxima decreasing gradually until August, and disappearing completely in September and October.

The autumn population peak in September and in October occurred for the *I.ricinus, Dermacentor marginatus* and *Haemaphysalis punctata.*

Ticks were found on 60.14% of examined sheep. Relative abundance analysis revealed that the species at sheep *I. ricinus* was absolutely dominant 41.91%, followed by *Dermacentor marginatus* (32.91%), *Rhipicephalus bursa* (17.22%), *R.sanguineus* (6.72%), *Haemaphysalis punctata* (2.21%) and *D. recticulatus* (1.17%).

Ticks were found on 34.42% of examined goats**.** Relative abundance analysis revealed that the species at goats *I. ricinus* was absolutely dominant 64.42%, followed by *Rhipicephalus bursa* (17.22%), *R. sanguineus* (6.72%), *Haemaphysalis punctata* (4.22%) and *Dermacentor marginatus* (2.91%).

Similar results we obtained during examination of ticks fauna in west and east part of Serbia where *Ixodes ricinus* and *Dermacentor marginatus* are dominant tick species at sheep (Milutinovic et al.1996, 1998)

At the same time in the investigated areas at the goat *I.ricinus* and *Haemaphysalis punctata* were most abundant species in contrast of Belgrade area where, except *I.ricinus,* second dominant species were *Rhipicephalus bursa.* During examination performed in Belgrade area by Milutinovic et al. (1997), Dimitric (1999) and later by Pavlovic. et al. (1999,2002) most abundant tick species were *I. . R.sanguineus, D.recticulatus* and *D.marginatus*. Those ticks' species were occurred in dog population and at foxes and badgers hunted at spread Belgrade area (Pavlovic et al. 1997b).

Our studies conducted over a dozen years later, it was determined that the situation has no changed in terms of ticks species and its number and confirmed dominate role of *I.ricinus* and *Rhipicephalus* species at Belgrade area.

CONCLUSIONS

During study performed in 2011.we examined a total of 91 flocks of goats and sheep from 6 Belgrade districts.. Ticks infestation we occurred at 169 (60.14%) sheep and 42 (34.42%) goats. Most abundant were *Ixodes ricinus,* followed by *Dermacentor marginatus, Rhipicephalus sanguineus, R.bursa, Haemaphysalis punctata* and *D.recticulatus.* These findings are of great epidemiological importance because these types of ticks transmit a multitude zoonotises like *Borellia burgdefori, Erlicihia spp., Anaplasma spp., Tick-born encephalitis, numerous haemorrhagic fewer* and etc.

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