Ixodid Tick Species Infesting Sheep and Cattle in Kelardasht Part (Chaloos), Iran

M.R. Youssefi, M. Keighobadi and M.Y. Asnaashari
Department of Parasitology, Faculty of Veterinary Sciences, Islamic Azad University, Babol Branch, Babol, Iran

Abstract: Ticks are features which are apart of metastigmata order. All of these features are parasite of animals which only feed on them. Ticks and disease related, causes economical damages which in some case these damages reaches to million dollars each year. Because of the importance of recognition ticks, particularly Ixodidae, this research has been done on Ixodidae ticks on domestic animals at Kelardasht in Mazandaran Northern Iran. The used method in this research it was cross-section and this ticks were studied on, were collected during 5 month (May to September 2004) from 150 sheep and cattle. From 980 collected samples, 798 numbers of them departed in genus and species and the rest were eliminated. In this study 6 groups species. In Ixodes the only observed species was ricinus, in Boophilus only annulatus species, in Dermacentor only marginatus was identified. But in Haemaphysalis two different species were observed punctata and inermis. In Hyalomma and Rhipicephalus bursa was observed. In these study samples the most percentages was seen in Ixodes (26.8 %) and the minimum was in Haemaphysalis (0.2%).

Key words: Ticks, ixodidae, Mazandaran, Iran

INTRODUCTION

Ticks are features which are apart of metastigmata order. All of these features are parasite of animals which only feed on them. Ticks divided in two main family, hard ticks (Ixodidae) and soft ticks (Argasidae). They are extendly 650 species of ticks exists which distributes in 11 genus such as Hyalomma, Rhipicephalus, Ixodes. (Mike and Service, 2001). This feature also likes to feed from domestic animals, wild mammals, also settled human as the main host. Being in the vicinity of these features is the main reason in transmitting variety of infection to human, such as Crimean-Congo Hemorrhagic Fever (CCHF).

The important point about such as disease that only impeticular infection transmit only by one genus of tick, therefore recognize the variety of different genus and spice are very important in studying epidemiology variety of disease (Millan and Gortazar, 200-4).

Ticks and disease related, causes economical damages which in some case these damages reaches to million dollars each year (Calvete and Estrada, 2003). In Australia these damages estimated mostly 22 million dollars in year (Schmidt Man and Schlater, 1998). Because of the importance of recognition ticks, particularly Ixodidae, this research has been done on Ixodidae ticks on domestic animals at Kelardasht in Mazandaran Northern Iran.

MATERIALS AND METHODS

The used method in this research it was cross-section and this ticks were studied on, were collected during 5 month (May to September) from 150 sheep and cattle. These ticks were collected...
Table 1: Separation and Identification of Genus and Species Hard Ticks in Kelardasht (Chaloo) Area

<table>
<thead>
<tr>
<th>Genus</th>
<th>Species</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ixodes</td>
<td>ricinus</td>
<td>48 (36.08)</td>
<td>246 (40.66)</td>
<td>294 (26.4)</td>
</tr>
<tr>
<td>Boophilus</td>
<td>annulatus</td>
<td>16 (8.70)</td>
<td>148 (24.10)</td>
<td>164 (20.5)</td>
</tr>
<tr>
<td>Dermacentor</td>
<td>marginatus</td>
<td>4 (2.18)</td>
<td>3 (0.49)</td>
<td>7 (0.8)</td>
</tr>
<tr>
<td>Haemaphysalis</td>
<td>punctata</td>
<td>19 (10.32)</td>
<td>114 (18.57)</td>
<td>133 (16.6)</td>
</tr>
<tr>
<td>Haemaphysalis</td>
<td>inermis</td>
<td>-</td>
<td>2 (0.32)</td>
<td>2 (0.2)</td>
</tr>
<tr>
<td>Hyalomma</td>
<td>anatolicum</td>
<td>14 (7.61)</td>
<td>6 (0.98)</td>
<td>20 (2.5)</td>
</tr>
<tr>
<td>Rhipicephalus</td>
<td>bursa</td>
<td>83 (45.11)</td>
<td>95 (15.47)</td>
<td>178 (22.3)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>184 (25.05)</td>
<td>614 (76.55)</td>
<td>798 (100.0)</td>
</tr>
</tbody>
</table>

Results

From 980 collected samples, 798 numbers of them departed in genus and species and the rest were eliminated. In this study 6 groups' species were as follow: The study included six identified genus groups, Ixodes, Boophilus, Dermacentor, Haemaphysalis, Hyalomma and Rhipicephalus.

In Ixodes the only observed species was ricinus, in Boophilus only annulatus species, in Dermacentor only marginatus was identified. But in Haemaphysalis two different species were observed punctata and inermis. In Hyalomma and Rhipicephalus bursa was observed (Table 1). In these study samples the most percentages was seen in Ixodes ricinus (26.8 %) and the minimum was in Haemaphysalis inermis (0.2%).

Discussion

Hard ticks transmit diseases mainly to animals and rarely or accidentally to human. This research was studied on ticks in Kelardasht (Chaloo). There have been different studies about this issue in other parts of world. For example the first research was done in by Lingerin and et al in Auwa, US during 12 years (Lingerin and Rowley, 2005). The number of samples reached to 5343 which were collected from 99 united in America. The separated genuses were Dermacentor variabilis, Amblyomma americanum and Ixodes scapularis.

The second study was reported in Thailand, on domestic animals and the total of 1491 of ticks were collected, the most common ticks were Rhipicephalus and Boophilus (Nithakathkui and Poleseela, 2002).

The third research was studied about hard tick, in different genus were separated and identification such as Boophilus (Kumar and Balakrishanan, 2002).

Also in Europe (Greece) the research have been done by Papadopoulos, during 3 years on 11620 samples of ticks on animals such as cattle, dogs, showed that the major ticks on these animals is Rhipicephalus (Papadopoulos, 1996). These results were the same as the results we have observed in Kelardasht.

In the research have been done by Abd-Gozar and Hashani Fesharaki (2005) Razi institute during two years in Isfahan, East Azarbayjan, Khozestan, Kordestan, Lorestan and Mazandaran. The numbers of 13 species of ticks were identification, which was expected to collected more spieces.
In the other researches which have been done in Savehbolagh, on 740 numbers of sheep and goat showed that the major numbers of ticks were *Rhipicephalus* and *Hyalomma* (Esmail Nia and Ahari Pour, 2005). Also these was another research done in Kerman, which showed that the major kind of ticks are *Hyalomma* (Radfar, 2005). But in this investigation prevailing species observed was *Ixodes*, this difference might be, because of the kind of weather.

ACKNOWLEDGMENT

This study was supported by a grant from Islamic Azad University, Babol Branch, Iran.

REFERENCES


