Prevalence of ixodid ticks on cattle in Mazandaran province, Iran

Gholam Reza RAZMI*, Meisam GLINSHARIFODINI and Shaboddin SARVI

Department of Pathobiology, School of Veterinary Medicine, Ferdowsi University of Mashhad, 1793 Mashhad, Iran

Abstract: A survey was carried out to investigate the prevalence of hard tick species (Acari: Ixodidae) on cattle in Mazandaran province, Iran. A total of 953 ticks were collected from 86 infested cattle during activating seasons of ticks during 2004-2005. Nine species were identified: Boophilus annulatus (51.3%), Rhipicephalus bursa (16.8%), Haemaphysalis punctata (6.3%), Ixodes ricinus (6.8%), Hyalomma marginatum (12.5%), Hyalomma anatolicum excavatum (5.2%), Hyalomma asiaticum (0.6%), Hyalomma detritum (0.2 %), and Dermacentor spp. (0.1%). The results show that Boophilus annulatus, Rhipicephalus bursa, and Hyalomma species are dominant tick species in the surveyed area.

Key words: Boophilus, Rhipicephalus, Hyalomma, Ixodes, Dermacentor, prevalence, ixodid tick, cattle, Mazandaran province, Iran

Ticks are hematophagous arthropods belonging to the Class Arachnids. Once they attach to a host for a blood meal, they can cause skin irritation and anemia. Ticks are also one of the major vectors of pathogens, such as Babesia, Theileria, and Anaplasma spp., to animals in the world (Soulsby, 1982; Morel, 1989). It is important to know the prevalence of the tick species involved on the transmission as well as their geographical distribution for the control of tick and tick-borne diseases (TBDs). Among the provinces of Iran, Mazandaran province has a special climate, with its abundant superficial water resources, which it is favorable to agriculture and animal husbandry. Many of cattle graze in the pastures and forests, and the probability for them to be exposed to tick infestation is increasing. However, so far, only a few studies were done about the tick fauna in different hosts in Iran (Abbasi, 1961; Mazlum, 1971; Rahbari, 1995; Razavi and Seifi, 2006; Nabian et al., 2007), and little information is available about the frequency of ixodid tick species in cattle in Mazandaran province. The aim of this study is to determine the frequency of tick infestation in cattle of Mazandaran province, Iran. In addition, special attention was given to the effect of climate condition on the distribution of different tick species in eastern and western areas of this Province.

Mazandaran province is with an area of about 460,456 km², at the proximity of the Caspian Sea on the north and Alborz Mountain on the south (Fig. 1). The province enjoys a moderate, semitropical climate with an average temperature of 25°C in summer and about 8°C in winter. The province also enjoys a quasi-Mediterranean climate, and the annual rainfall averages 650 mm in the eastern part of Mazandaran province and more than 1,300 mm in the western part. For its abundant superficial water resources, it is favorable for agriculture and animal husbandry. A

*Corresponding author (e-mail: razmi@ferdowsi.um.ac.ir)

• Received 19 September 2007, accepted after revision 12 December 2007.