SUMMARY

The aim of the present study was the diagnosis of *Theileria* and *Babesia* species, causing significant economic losses in cattle, by Reverse Line Blot hybridization technique in Aydın, Izmir and Manisa provinces. For this purpose, blood samples taken from various districs (Aydin-Central, Yenipazar, Cine, Soke; Izmir- Tire, Aliaga; Manisa- Golmarmara, Alasehir) between June 2006- September 2008 were analyzed. As a result of analyses, a total of 2152 (54.92 %) out of 3918 blood samples has been identified to be positive for *T. annulata* in Aydin province. The infection rate of *T. annulata* in Cine, Soke, Osmanbuku and Yenipazar districts were 89.40, 60.87, 57.91 and 20.06 %, respectively. A total of 2644 blood samples from were collected in Izmir and 619 (23.41 %) of these samples were identified to be infected with *T. annulata*. The rate of *T. annulata* positive samples of in Kınık, Tire, Aliaga districts in Izmir province were 37.93, 22.33 and 15.86 %, respectively. In only one example, *T. annulata* - *B. bovis* and *T. annulata* - *T. buffeli* mix infections were detected in Tire district. A total of 1088 (48.14 %) out of 2260 blood samples has been identified to be positive for *T. annulata* in Manisa province; the positive sample rates of *T. annulata* in Alasehir and Golmarmara districts were 67 and 27.34 %, respectively. According to the results obtained by RLB hybridization technique, the positive rates of *B. bovis* were as follows: 3.78 % in Yenipazar district of Aydin province; 6.63 and 0.51 % in Tire and Aliaga districs of Izmir, respectively; 0.34 % in Alasehir district of Manisa province. *B. bigemina* infection was not detected in Aydın province and all its districts. However, *B. bigemina* was detected in Kınık district (1.45 %) of Izmir province and in Alasehir district (0.34 %) of Manisa province. In the study, the epidemiology of the *Theileria* and *Babesia* species in the cattle population in Aydin, Izmir and Manisa provinces was determined using the RLB technique which allows simultaneous detection of all tick-borne infections. Furthermore, the present study contributed to the development of control programs by identifying the the presence of the above mentioned species causing major diseases in cattle production.

Key Words: *Babesia*, Reverse Line Blot Hybridization Technique and *Theileria*