

Editorial



Current Status of Zoonotic Pathogen *Anaplasma phagocytophilum* in Türkiye: A Molecular Approach

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Türkiye is located in the Northern Hemisphere, between 36-42 degrees north latitude and 26-45 degrees east longitude. Türkiye consists of 7 different geographical regions. In addition, there are 3 different climates: Mediterranean climate, Black Sea climate, and continental climate (1). As can be seen, different climatic conditions prevail in the country. This variability provides suitable habitats for a variety of arthropod vectors during the four seasons of the year. Türkiye is a country where many tick-borne diseases (babesiosis, theileriosis, and anaplasmosis) are commonly seen. The most common diseases in farm animals are babesiosis and theileriosis. Anaplasmosis, on the other hand, is less widespread (2). Seven species of *Anaplasma* genus (*Anaplasma bovis*, *Anaplasma centrale*, *Anaplasma marginale*, *Anaplasma ovis*, *Anaplasma phagocytophilum*, *Anaplasma platys*, and *Anaplasma capra*) have been identified so far (3,4). *A. phagocytophilum* is the first species identified to cause infection in humans. It is known as the causative agent of human granulocytic anaplasmosis. In humans, it is asymptomatic, but laboratory results show leukopenia and thrombocytopenia. The other agent of human anaplasmosis is a variant of *A. ovis* identified in Cypriot patients. *A. capra* is a newly identified species that causes infection in humans. In 2015, it was reported in patients with tick bites in Heilongjiang Province, China (5). To date, *A. phagocytophilum* has been found in animals such as sheep, goats, cattle, horses, cats, and dogs by molecular methods in Türkiye (6-11). However, this zoonotic pathogen has only been detected serologically in humans (12). In addition, *A. phagocytophilum* was detected in *Ixodes ricinus* ticks collected from humans (13). In Türkiye, 7.2% of 167 cats were found positive for *A. phagocytophilum* in the PCR test, while the DNA of *A. phagocytophilum* was detected in 3.1%-7.8% of dogs (7,9,10). The prevalence of equine granulocytic anaplasmosis ranged from 6.4% to 6.6% in Türkiye (6,14). A molecular study conducted in Türkiye revealed that 92.9% of the goats were positive for *A. phagocytophilum* (15). In the same study, 89.5% of the sheep were positive for *A. phagocytophilum* (15). In a current study, Aktas and

Author's Biosketch

In 2009, Bekir Oğuz graduated from Veterinary, Van Yüzüncü Yıl University, Türkiye. He received an academic degree in Veterinary Parasitology Sciences in 2013. In his thesis, he studied *Hypoderma* species by molecular methods. He received the title of Associate Professor in 2019. In 2009, he started to work at the Department of Parasitology, Faculty of Veterinary Medicine, Van Yüzüncü Yıl University, Van, Türkiye. He has published 39 scientific studies to date and has received over 175 citations for his articles. He has been involved in 12 national projects so far. In recent years, he has carried out studies on the diagnosis and phylogenetic analysis of *A. phagocytophilum* in dogs and horses. At present, he is an editorial assistant of *Van Veterinary Journal*.



Özübek (8) detected *A. phagocytophilum* DNA in 30.8% of the 123 apparently healthy cattle in Türkiye. In our country, there is a need for more studies using molecular methods in order to fully determine the prevalence of *A. phagocytophilum* in humans. It suggests that the role of pets as reservoirs should be monitored based on tick-host-pathogen interactions because these hosts, by their nature, establish close relationships with people. However, to the best of our knowledge, there is not any study or academic information on wild animals. It is necessary to determine the potential risks that the pathogen may pose by conducting studies on wild animals.

Conflict of Interests

None.

Ethical Issues

Not applicable.

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Received: December 1, 2021, Accepted: December 10, 2021, ePublished: December 30, 2021

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