

Scanning Electron Microscopy Images of *Rhipicephalus (Boophilus) kohlsi* from a Wild Goat in Northeastern Anatolia, Turkey

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Abstract

Tick samples were collected from a wild goat (*Capra aegagrus*) found in Uzundere province of Erzurum, Turkey. Species identification performed based on morphological criteria, and 3 males and 1 female tick were identified as *Rhipicephalus (Boophilus) kohlsi*. Scanning electron microscopy (SEM) used to view the characteristic morphologic features of the ticks. Although previous studies report the presence of *R. kohlsi* in Turkey and in the world, this study represents the first SEM images of male and female *R. kohlsi*.

Keywords: *Wild goat, Rhipicephalus (Boophilus) kohlsi, Scanning electron microscopy*

Türkiye'nin Kuzeydoğusunda Bir Yaban Keçisinden Elde Edilen *Rhipicephalus (Boophilus) kohlsi*'nin Taramalı Elektron Mikroskopu Görüntüleri

Öz

Erzurum'un Uzundere ilçesinde bulunan bir yaban keçisinden (*Capra aegagrus*) kene örnekleri toplandı. Morfolojik kriterlere göre yapılan tür identifikasyonunda, toplanan 3 erkek ve 1 dişi kene *Rhipicephalus (Boophilus) kohlsi* olarak tanımlandı. Kenelerin karakteristik morfolojik özelliklerini incelemek için taramalı elektron mikroskopu (SEM) kullanıldı. Önceki çalışmalarda *R. kohlsi*'nin Türkiye ve dünyadaki varlığı bildirilmiş olmakla beraber bu çalışmada erkek ve dişi *R. kohlsi*'nin ilk SEM görüntülerini sunmaktadır.

Anahtar sözcükler: *Yaban keçisi, Rhipicephalus (Boophilus) kohlsi, Taramalı elektron mikroskopu*

INTRODUCTION

Wild goat (*Capra aegagrus*) exists intermittently at southwest Turkey, southwest and central Asia and southern Russia^[1-6]. In Turkey, wild goats inhabit rugged, mountainous area with altitude between 1500 and 3500 meters in southern, southeastern, eastern and northeastern Anatolia especially in arid habitats.

Rhipicephalus (Boophilus) kohlsi was first recorded and described by Hoogstraal and Kaiser^[7] from sheep and goats in Jordan, in 1970. In the following years, this species reported from Israel^[8,9], Western Saudi Arabia^[10], Iraq^[11], West Africa^[12], Iran^[13], Uzbekistan^[14], and Turkey^[15,16]. This tick is primarily defined as a parasite of goats and sheep but also reported from cattle, horse, mule, pig and camel^[8,14]. The preferred body sites by the tick are

especially neck and ears in goats, but it also attaches to the tail in fat-tailed sheep^[8].

In this case report, we provide morphological data for the male and female *R. kohlsi* collected from a wild goat by using scanning electron microscopy (SEM).

CASE HISTORY

An injured wild goat was found in Uzundere, Erzurum (40° 32' 11" N and 41° 32' 54" E, 1140 m above sea level, northeastern of Turkey) in April, 2017 and taken to the Animal Hospital of the Faculty of Veterinary Medicine for treatment. The female and young (<1-year-old) wild goat was checked for ectoparasites during inspection. Four tick samples were taken from neck and ear, and kept in tubes containing 70% ethanol until identification. The ticks were

