Kafkas Univ Vet Fak Derg
23 (6): 1015-1017, 2017
DOI: 10.9775/kvfd.2017.18130

Kafkas Universitesi Veteriner Fakultesi Dergisi
Journal Home-Page: http://vetdergikafkas.org
Online Submission: http://submit.vetdergikafkas.org

Case Report

# First Report of *Trichodectes melis* (Phthiraptera, Trichodectidae) from the Eurasian Badger *Meles canescens* (Carnivora, Mustelidae) in Turkey [1]

Gencay Taşkın TAŞÇI [1] Ekin Emre ERKILIÇ [2]
Nilgün PARMAKSIZOĞLU AYDIN [1] Erdoğan UZLU [2]

*[1] This study was presented in 4th Vet İstanbul Group Congress Almaty - Kazakhstan, 11th-13th May 2017 and published in abstract book (titled as " First Report of Trichodectes melis (Phthiraptera, Trichodectidae) from the European Badger Meles meles (Carnivora, Mustelidae) in Turkey")*

[1] Faculty of Veterinary Medicine, Kafkas University, Department of Parasitology, TR-36100 Kars - TURKEY
[2] Faculty of Veterinary Medicine, Kafkas University, Department of Internal Medicine, TR-36100 Kars - TURKEY

**Article Code: KVFD-2017-18130 Received: 30.05.2017 Accepted: 17.07.2017 Published Online: 17.07.2017**

**Citation of This Article**

**Taşçı GT, Erkılıç EE, Parmaksızoğlu Aydın N, Uzlu E:** First report of *Trichodectes melis* (Phthiraptera, Trichodectidae) from the Eurasian Badger *Meles canescens* (Carnivora, Mustelidae) in Turkey. *Kafkas Univ Vet Fak Derg,* 23 (6): 1015-1017, 2017. DOI: 10.9775/kvfd.2017.18130

## Abstract

The study was performed to first report *Trichodectes melis* in Turkey. Research material was obtained from one female Eurasian badger brought to the Kafkas University, Wildlife Conservation, Recovery, Rehabilitation Research and Application Center. The badger was examined for the presence of ectoparasites. The lice specimens were preserved in a vial containing 70% ethanol, cleared in lactophenol for a few days, mounted on slides in the Canada balsam medium and examined under a microscope. All of specimens diagnosed as *T. melis* is the first record for ectoparasite fauna of Turkey.

***Keywords:*** *Trichodectes melis, Ischnocera, Meles canescens, Turkey*

# Türkiye'de Asya Porsuğu *Meles canescens* (Carnivora, Mustelidae)'te *Trichodectes melis*'in İlk Tespiti

## Özet

Bu makale, *Trichodectes melis*'in Türkiye'den ilk bildirim olması nedeniyle hazırlanmıştır. Çalışma materyalini Kafkas Üniversitesi Yaban Hayatı Koruma, Kurtarma, Rehabilitasyon, Araştırma ve Uygulama Merkezi'ne getirilen dişi bir Asya porsuğu oluşturmuştur. Porsuk ektoparazit varlığı yönünden incelenmiştir. Bit örnekleri birkaç gün %70 etanol içinde bekletilmiş, laktofenol içinde şeffaflandırılmış, Kanada balsamı ile lama sabitlenmiş ve mikroskop altında incelenmiştir. *Trichodectes melis* olarak kaydedilen tüm bit örnekleri Türkiye'de bit faunası için ilk kayıttır.

***Anahtar sözcükler:*** *Trichodectes melis, Ischnocera, Meles canescens, Türkiye*

## INTRODUCTION

The Eurasian badgers *(Meles* spp.), Carnivora-Mustelidae, have a geographical range from the British Islands in the west to the Japanese Islands in the east, including the Scandinavia, Southwest Asia, southern China and Turkey [1,2]. The badgers have black, white, brown or grey fur, small head, stocky body, black eyes and short tail. Its weight varies between 6.6-14 kg in females and between 9.1-16.7 kg in males. Head-body length ranges between 56-90 cm and tail length ranges from 11.5 cm to 20.2 cm. Badgers *(Meles meles)* are nocturnally active wild animals, so they sleep during all day [3-6].

The badgers are commonly infested with ectoparasites such as lice *(Trichodectes melis)* [7-11].

A small number of studies have been undertaken about the infestation of badgers with ectoparasites especially

**İletişim (Correspondence)**
+90 474 2426807/5096; +90 535 4610564
taskin.tasci@hotmail.com

with lice in Turkey and World [6-13]. This is the first report of *Trichodectes melis* from Eurasian badger *(Meles canescens)* in Turkey.

## CASE HISTORY

Research material was obtained from one female Eurasian badger brought to the Kafkas University, Wildlife Conservation, Recovery, Rehabilitation Research and Application Center on 29 March 2016. The badger was examined for the presence of ectoparasites. The lice specimens collected on the fur were preserved in a vial containing 70% ethanol, cleared in lactophenol for a few days, mounted on slides in the Canada balsam medium and examined under a stereo-microscope. The parasites were measured and recorded.



**Fig 1.** *Trichodectes melis*, male



**Fig 2.** *Trichodectes melis*, female

In this research, 7 specimens of *T. melis* were found on the skin of badger. Three of them were males *(Fig. 1)*, and remaining 4 were females *(Fig. 2)*. The morphometric measurements of *T. melis* specimens were shown in *Table1*.

***Table 1.*** *Mean body size (mm) of T. melis from badgers in our study and the others*

| Mean Body Size | Present Study | | Perez-Jimenez et al.[14] | | Kozina et al.[11] | |
|---|---|---|---|---|---|---|
| | Male (n=3) | Female (n=4) | Male (n=18) | Female (n=48) | Male (n=7) | Female (n=44) |
| Length of head | 0.46-0.49 | 0.46-0.54 | 0.50-0.53 | 0.52-0.58 | 0.45-0.51 | 0.48-0.61 |
| Width of head | 0.61-0.83 | 0.67-0.83 | 0.79-0.84 | 0.84-0.94 | 0.57-0.83 | 0.69-0.80 |
| Length of thorax | 0.31-0.33 | 0.30-0.36 | 0.30-0.35 | 0.27-0.35 | 0.21-0.27 | 0.18-0.30 |
| Width of thorax | 0.47-0.57 | 0.51-0.64 | 0.55-0.61 | 0.62-0.69 | 0.38-0.50 | 0.37-0.63 |
| Length of abdomen | 0.95-1.09 | 0.88-1.04 | 1.01-1.12 | 1.05-1.26 | 0.82-0.90 | 0.86-1.22 |
| Width of abdomen | 0.73-0.97 | 0.92-1.01 | 0.95-1.06 | 1.11-1.30 | 0.82-0.94 | 0.85-1.21 |
| Total lenght of body | 1.77-1.81 | 1.65-1.88 | 1.83-1.98 | 1.88-2.13 | 1.57-1.67 | 1.58-2.04 |

## DISCUSSION

It was reported that *T. melis* is a common and important ectoparasite of the badgers in Spain. In a study, two badgers were examined and both of them were found infected with *T. melis* [13]. In another study, 66 adult lice (18 males, 48 females) were collected on two badgers [14]. Dominguez [12] reported that the parasitic intensity of infestation were found with over 300 lice per animal. In another study, 6 of 7 badgers were found to be infected with *Trichodectes melis* [10]. In England, an adult female badger was found as infested with a total of 754 chewing lice in 1979 [7]. There is one parasitological study on badgers that carried out in Turkey but no lice species were determined [6]. Although there are numerous lice species have been reported on wild animals in Turkey [15], no data was able to found on the existence of lice species neither on badger nor on another animal belongs to Mustelidae family.

It is known that many pathogenic agents are carried and infected by domestic and wild animals which are infested by ectoparasites such as *T. melis*. This is the first report of *T. melis* from Eurasian badger *(Meles canescens)* in Turkey. This study emphasizes the importance of detailed examination of these and similar wild animals which are frequently coming to our clinics, and also it is thought that this study will be supposed to support the studies which will be done later about ectoparasites of wild or domestic animals.

## REFERENCES

**1. Abramov AV, Puzachenko AY:** The taxonomic status of badgers (Mammalia, Mustelidae) from Southwest Asia based on cranial morphometrics, with the redescription of Meles canescens. *Zootaxa,* 3681 (1): 44-58, 2013. DOI: 10.11646/zootaxa.3681.1.2

**2. İbiş O, Tez C, Özcan S, Yorulmaz T, Kaya A, Mohradi M:** Insights into the Turkish and Iranian badgers (the genus Meles) based on the mitochondrial cytochrome b gene sequences. *Vertebr Zool,* 65 (3): 399-407, 2015.

**3. British Wildlife Centre Species Collection:** *Badger- Meles meles.* 2012. http://www.britishwildlifecentre.co.uk/planyourvisit/animals/badger.html; *Accessed:* 25 September 2016.

**4. Anonymus:** European badger *(Meles meles)*. 2014. https://en.wikipedia.org/wiki/European_badger; *Accessed:* 25 May 2016.

**5. Anonymus:** *Meles meles* Eurasian badger. 2014. http://animaldiversity.org/accounts/Meles_meles; *Accessed;* 25 May 2016.

**6. Bölükbaş CS, Umur Ş, Açıcı M, Gürler AT:** Bir porsukta *(Meles meles)* rastlanan parazitler. *19. Ulusal Parazitoloji Kongresi ve Uluslararası Katılımlı Ekinokokkozis Sempozyumu*, 5-9 Ekim, Erzurum, Türkiye. s.136, 2015.

**7. Britt DP:** Possible phoretic association between mallophagan and flea ectoparasites of the badger, *Meles meles* (L.). *Ann Trop Med Parasitol*, 76, 489-491, 1981. DOI: 10.1080/00034983.1982.11687571

**8. Butler JM, Roper TJ:** Ectoparasites and sett use in European badgers. *Anim Behav*, 52, 621-629, 1996. DOI: 10.1006/anbe.1996.0203

**9. Cox R, Stewart PD, Macdonald DW:** The ectoparasites of the European Badger, *Meles meles,* and the behavior of the host-specific flea, *Paraceras melis. J Insect Behav*, 12, 245-265, 1999.

**10. Dominguez-Penafiel G, Gimenez-Pardo C, Gegundez MI, Lledo L:** Prevalence of ectoparasitic arthropods on wild animals and cattle in the Las Merindades Area (Burgos, Spain). *Parasite*, 18, 251-260, 2011. DOI: 10.1051/parasite/2011183251

**11. Kozina P, Golcz A, Izdebska JN:** New data on the prevalence of *Trichodectes melis* (Phthiraptera, Trichodectidae) on the European badger *Meles meles* (Carnivora, Mustelidae). *Ann Parasitol*, 60, 273-276, 2014.

**12. Dominguez G:** North Spain (Burgos) wild mammals ectoparasites. *Parasite*, 11, 267-272, 2004. DOI: 10.1051/parasite/2004113267

**13. Millan J, Ruiz-Fons F, Marquez FJ, Viota M, Lopez-Bao JV, Martin-Mateo M:** Ectoparasites of the endangered Iberian lynx *Lynx pardinus* and sympatric wild and domestic carnivores in Spain. *Med Vet Entomol*, 21, 248-54, 2007. DOI: 10.1111/j.1365-2915.2007.00696.x

**14. Perez-Jimenez JM, Soler-Cruz MD, Benitez-Rodriguez R, Ruiz Martinez I, Diaz-Lopez M, Fernandez FP, Delibes-de Castro M:** Phthiraptera from some wild carnivores in Spain. *Syst Parasitol*, 15, 107-117, 1990.

**15. İnci A, Düzlü Ö, Yıldırım A:** Phthiraptera (Bitler). **In**, Karaer KZ, Dumanlı N (Eds): Arthropodoloji. 137-158, Medisan Yayın Serisi: 81, Ankara, 2015.