First Report of *Polyplax* sp. in a Persian Squirrel (*Scuirus anomalus*) in Tabriz, Northwest of Iran

Tebriz, Kuzeybatı İran'da, Bir Acem Sincabında (*Sciurus anomalus*) *Polyplax* sp. İlk Raporu

Shahrokh Shirazi[1], Farhad Bahadori[2], Tayebeh-Sadat Mostafaei[3], Hooman Ronaghi[1]

[1]Department of Pathobiology Science and Research branch, Islamic Azad University, Tehran, Iran
[2]Department of Veterinary Medicine, Islamic Azad University, Tabriz, Iran
[3]Department of Veterinary Parasitology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

ABSTRACT

The Persian squirrel (*Scuirus anomalus*) has a long furry tail, which is longer than half of the body, and lives in the Zagros forest. It is distributed in the west and northeast of Asia. In the summer 2011 a Persian squirrel with signs of hair loss and itch in head and tail was referred to the veterinary clinic. There were arthropods in the lesion in the first survey. Many of these parasites were collected and were sent to Parasitology Laboratory of Science and Research University in Tehran. Samples were processed and were identified according to lices diagnostic keys using a light microscope. Lice that were sent to the national parasitology museum were identified as *Polyplax* sp. too. *(Turkiye Parazitol Derg 2013; 37: 299-301)*

Key Words: Persian squirrel, lice, infection, Tabriz

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ÖZET

Acem sincabının (Sciurus anomalus) vücudunun yarısından uzun bir tüylü kuyruğu vardır ve Zagros ormanlarında yaşamaktadır. Asya'nın batı ve kuzeydoğusunda yaygındır. 2011 yazında bir Acem sincabı baş ve kuyrukta tüy dökülmesi ve kaşıntı belirtileri ile veteriner kliniğine sevk edildi. İlk taramada lezyonda artropodlar vardı. Bu parazitlerin çoğu toplandı ve Tahran'daki Bilim ve Araştırma Üniversitesi Parazitoloji laboratuvarına gönderildi. Numuneler işleme alındı ve bir ışık mikroskobu kullanılarak bit teşhis şifrelerine göre tanımlandı. Ulusal parazitoloji müzesine gönderilen bitler de *Polyplax* sp. olarak tanımlandı. *(Turkiye Parazitol Derg 2013; 37: 299-301)*

Anahtar Sözcükler: Acem sincabı, bit, enfeksiyon, Tebriz.

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INTRODUCTION

Persian squirrel considered as a pet animal is one of the endemic rodents of Iran. There is a little information about parasitic disease of this animal in Iran.

Persian squirrel is medium size with the length of 20-25 centimeter. It's back hair is brownish gray and is yellow in ventral side. Heads hair and back of the tail is reddish fawn. Red head and tail of Persian squirrel are special features different from other squirrel in Iran.

Moderate forest of some areas in Iran, Armenia, Azerbaijan, Georgia, Greece, Iraq, Jordan, Lebanon, Syria and Turkey are habitat of this animal. Infestation of arthropods such as lice infestation in small rodents has reported from all over the world (1-3). Although there are studies on rodent's parasitic infections in Iran, there are limited studies on the ectoparasitic infestation of squirrel (4-6).

The present study was carried out to determine ectoparasitic infestations in a Persian squirrel.

Address for Correspondence / Yazışma Adresi: Dr. Shahrokh Shirazi, Department of Veterinary Parasitology, Division of Science and Research, Islamic Azad University, Tehran, Iran. Phone: 00989143040387 E-mail: sh.shirazi@srbiau.ac.ir
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Figure 1. Alopecia on squirrel's muzzle

Figure 2. Alopecia on bias of tail

It's needed to release this information because of insufficient information about parasitic infections in wild and domestic squirrel in Iran.

METHODS

In the summer 2011 a Persian squirrel with signs of hair Loss and itch in head and tail was referred to the veterinary clinic. There were arthropods in the lesion in the first survey (Figure 1, 2). Some of these ectoparasites were collected and were sent to parasitology laboratory of Science and Research University in Tehran. Samples were processed and were identified with a light microscope.

RESULTS

According to lice diagnostic keys it was found that the lesions were caused by *Polyplax* and infection by numerous lice were responsible for these lesions (7). Lice were sent to the national parasitology museum in order to final diagnosis and samples were identified as *Polyplax* too (Figure 3). This is the first report of squirrel's infestation by *Polyplax* in East Azerbaijan province of Iran.

Figure 3. Polyplax founded on Persian squirrel

DISCUSSION

Polyplax is belonging to malophaga that cause irritation, anxiety and scrape. Anemia, weakness and even die would happen due to super infection. And also it has a role in pathogenic microorganism's transmission (8, 9).

Polyplax serrate and *P. spinulosa* are common cause of pediculosis the laboratory mouse and laboratory rat respectively. They have slender bodies, 0.6-1.5mm long, yellowish-brown. The average of life cycle is 13 days for *P. serrata* and 25 to 28 days for *P. spinulosa*. Both are vectors of various organisms. Thus *P. spinulosa* transmits *Haemobartonella* and *P. serrata* transmits *E. perythrozoon* and *Francisella* species (10).

Nowadays squirrel is considered as a pet animal, so identify their disease especially parasitic disease seems important. According to internal researches, there are some studies on parasitic infections in squirrel while many studies have done by foreign researchers. Rasouli in 2011 reported 8% infestation by *Polyplax* in laboratory rats of Urmia University (6). In a study in Lorestan (2005) infestation by lice has been reported in rodents but they were silent about the genus of them (5). In 2006, different genus of lice were reported in domestic squirrel in Tehran but none of them were *Polyplax* (11). Studies have been done on parasitic infection in squirrel in many countries such as Turkey (12, 2, 13). A lot of studies have done in small rodents such as squirrel (14). Bittencourt in 2003 has studied on infection of small mammals of Brazilian rain forest and he has reported the infestation by

Polyplax in squirrel that is consistent with this survey (1). Lice infestation in 11/9% rodents of Malaysia was reported in 2006 by Paramasvaran and there was *Polyplax* among reported lice (15). In 1996 Coyner reported infestation by lice in squirrel in Florida but none of them were *Polyplax* (16). In Japanese squirrel infection by anoplora and malophaga has been reported (3). Soliman reported lice infestation in 32/9% rats of Egypt and also there was *polyplax* (17).

According to the importance of this arthropod in rodent health especially wild and domestic squirrel it's suggested to do more research in this field.

CONCLUSION

Beside our findings, among the countries that have done study on squirrel, only Brazilian researchers have reported *Polyplax* in these kinds of animals, but in Iran and the other countries there are report of *Polyplax* contamination in others rodents such as rat.

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