

# Antalya'dan Toplanan *Lycisalamandra billae* (Franzen & Klewen) (Kara Semenderi)'nin Helmint Faunası

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**ÖZET:** Bu çalışma 1997-2001 yılları arasında Antalya'dan toplanan 50 (26 Erkek, 21 Dişi, 3 Jüvenil) *Lycisalamandra billae* (Kara Semenderi)'nin helmintlerini incelemek üzere yapılmıştır. Çalışma sonucunda 3 nematoda (*Aplectana acuminata*, *Cosmocerca longicauda* ve *Angiostoma aspersae*) türü tespit edilmiştir. Bu çalışma kara semenderi üzerinde yapılan Dünya'daki ilk çalışmadır. Bulunan parazit türleri için konak yeni kayıttır.

**Anahtar Sözcükler:** Kara Semenderi, Nematod.

## Helminth Fauna of *Lycisalamandra billae* (Franzen & Klewen) (Luschan Salamander) Collected from Antalya

**SUMMARY:** Fifty (26 males, 21 female and 3 juvenile) *Lycisalamandra luschani* (Luschan's salamander) collected in Antalya, were examined for helminths during 1997-2001. In this study, 3 helminth species, *Aplectana acuminata*, *Cosmocerca longicauda* and *Angiostoma aspersae* (Nematoda) were found. This study is the first helminthological research of Luschan's salamander in the world. This is the first time that Luschan's salamander has been shown to be the host of these parasites.

**Key Words:** Luschan's salamander, Nematoda.

## INTRODUCTION

Luschan Salamander is urodela that examine for helminths. *Lycisalamandra billae* distribute only southern-west of Turkey with some of Aegean Sea island in the world.(2).

Total eight species salamander live in Turkey. About each of four of them was researched. (4, 5, 6). From the infected salamanders, *Mertensiella caucasica* harbored 9 helminth species, *Neurergus strauchi* harbored 1 helminth species, *Triturus karelini* harbored 1 helminth species and *T. vittatus* harbored 2 helminth species.

There is no helminthological study about Luschan Salamander. So that finding parasites are new record.

In this study, 3 helminth species (*Angiostoma aspersae*, *Aplectana acuminata*, and *Cosmocerca longicauda*) were found. *A. acuminata*, *C. longicauda* and *A. aspersae* in *L. billae* are new host record. *Aplectana acuminata* and *C. longicauda* also found in *M. caucasica*, *A. aspersae* is new record in Turkey.

## MATERIALS AND METHODS

First of all fifty *L. billae* mean snouth-vent length (SVL)= 141mm ±22SD, range= 85-175 mm; (26 male, 21 female and 3 juvenil) were collected August 1997 and April 2001 in Antalya, Turkey (36° 52' N, 30° 45' E, elevation 150 m). Salamanders that were collected by hand in their habitat were examined for helminth parasites. Thereafter, salamanders were over-anaesthetized in ether-filled glass containers within 48 hr. The body cavity was opened by a longitudinal ventral incision. The alimentary canal was excised and separated into stomach, small intestine, large intestine and rectum. The contents of each part and other organs (lungs, liver, gall bladder, kidneys, and urinary bladder) were each mixed with 0.5% saline solution and were poured into petri dishes for examination under a stereomicroscope.

Nematodes that finding were straightened by heat, fixed and stored in 70% ethanol with 5% glycerol. Nematodes were cleared in glycerol and examined. Nematodes and voucher salamander specimens were deposited at Uludağ University, Science Faculty, Department of Biology.

## RESULTS

Fifty luschan salamanders were examined for helminths between 1997-2001. 26 of them male, 21 of them female and 3 of them juvenil salamanders.

Result of researching nematodes were found in 21 salamanders. These are, *A. acuminata* (Figure 1, 2, 3) (16 specimen)

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**Figures 1.** *Aplectana acuminata* anterior, **2.** *A. acuminata* female posterior, **3.** *A. Acuminata* male posterior  
**4.** *Cosmocerca longicauda* anterior, **5.** *C. longicauda* female posterior and **6.** *C. Longicauda* male posterior;  
**7.** *Angiostoma aspersae* anterior, **8.** *A.aspersae* posterior, **9 and 10.** *A.aspersae* male posterior

*C. longicauda* (Figure 4, 5, 6) (27 specimens) and *A. aspersae* (Figure 7, 8, 9, 10) (22 specimens).

Twenty-two specimens *A. aspersae* were found in 17 salamanders, in 4 of them both of *A. aspersae* and *C. longicauda* parasites were found. However, *C. longicauda* in 9 salamanders 27 specimens, *A. acuminata* in 4 salamanders 16 specimens were found.

## DISCUSSION

Neither in Turkey nor in the world there is no helminthological research about Luschan Salamander that is native to southwestern Anatolia and some Aegean islands.

*C. longicauda* lives in large intestine of salamander. This parasite species is also found in *Triturus alpestris*, *T. karelini*, *T. helveticus*, *T. montandoni* and *T. vulgaris* salamanders which are native to Europe.(1). In Turkey, *C. longicauda* was found in *Mertensiella caucasica*. (6).

*A. acuminata* is a helminth that distribute in West-Europe with Turkey and that find in some species of anura and salamanders. (6). This is the second report of salamanders in Turkey. *Lycisalamandra billae* represents a new host record for *A. acuminata* and *C. longicauda*.

*A. aspersae* was defined first of all in *Helix aspersa*.(3). With this study, first record of *A. aspersae* was presented also in salamanders. Also both of these parasite species are new record for *Lycisalamandra billae*. *A. aspersae* is new record for Turkey's helminth fauna.

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