# NEMATODA *SPAULIGODON SAXICOLAE* IN ROCK LIZARDS OF THE GENUS *DAREVSKIA* IN ARMENIA

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# НЕМАТОДА *SPAULIGODON SAXICOLAE* СКАЛЬНЫХ ЯЩЕРИЦ РОДА *DAREVSKIA* В АРМЕНИИ

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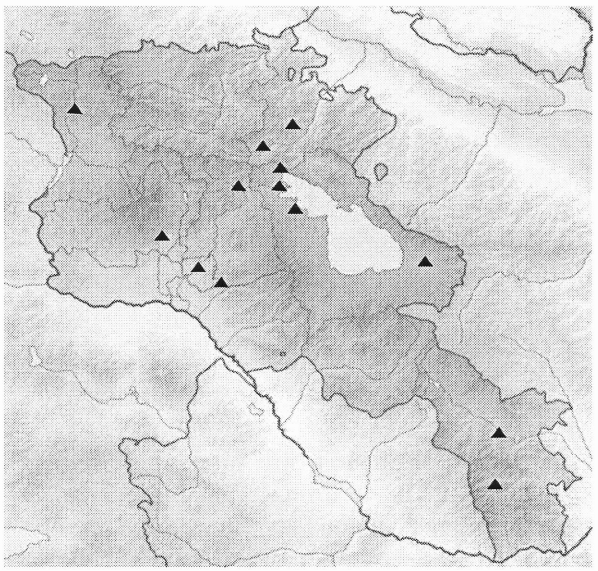
## Introduction

The nematod species *Spauligodon saxicolae* Sharpilo, 1961 is a widespread parasite of rock lizards of the genus *Darevskia* Arribas, 1997 was which previously found in Russia, Ukraine, Azerbaijan, Georgia and Armenia (Sharpilo, 1976). Prevalence of infection in some cases can be up to 80 %, intense 2-15 (Sharpilo, 1976). Life-cycle of this Nematoda requires only one host, so this worm considered being a monoxen geohelminth (Shults, Gvozdev, 1970). Egg and larval stage development takes place in the soil. In Armenia this nematode species was registered for the first time by Sharpilo (1961) and then by Armenian researchers. (Kazaryan, Vardanyan, 2000; Vardanyan et al., 2011; Sargsyan et al., 2014).

The purpose of the paper is to present the distributional data of geonematod species *Sp. saxicolae* in Armenia, describe its morphological characteristics and compare infestation of different species of the genus *Darevskia* by this helminth.

## Material and methods

In total 156 lizards of the genus *Darevskia* belonging to 7 species were collected from different regions of Armenia (Fig. 1) during 2009-2012 and examined for the presence of helminths.



Lizards were moved alive to the laboratory and euthanized using chloroform. In laboratory conditions the body cavity of each lizard was opened by a longitudinal incision, the gastrointestinal tract and internal organs were removed and examined under the microscope. Helminths found in the gastrointestinal tract, lungs, or body cavity were placed in 70% ethanol for later identification. For species identification, nematodes were initially placed in glycerin or glycerin-lactic acid mixture (1:1).

Morphology of the parasites was examined using microscope at 40x and 100x magnification. Identification of helminths was carried out according to Sharpilo (1976).

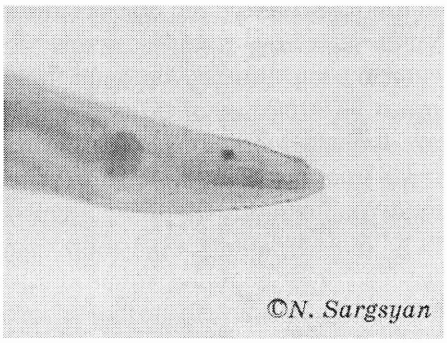
Fig 1. Map of Armenia with the geographic locations of *Sp. saxicolae*.

**Results and discussion**

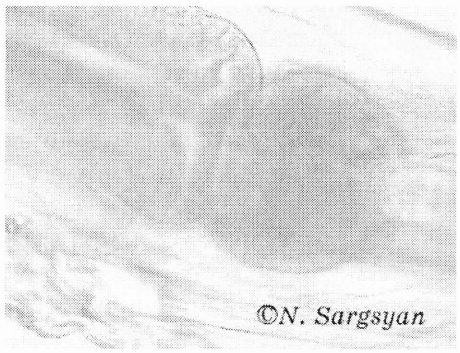
Examination of 7 species of rock lizards revealed that all of them are infected by geohelminth *S. saxicolae*, which morphological characteristics are given below.

***Description* (based on 10 specimens)** – In our material were detected only female individuals, so description is based on female specimens.

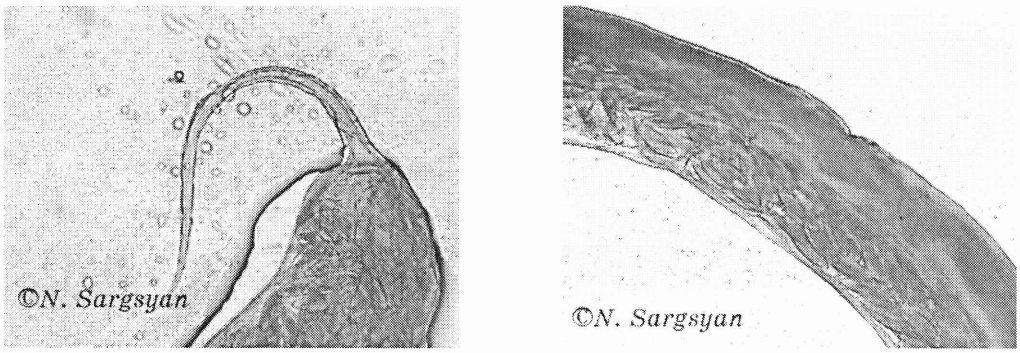
Length of body 4.8-7.2 mm, maximum width of body 0.38 mm. Cuticle is longitudinally striated. Tail ends with a needle-form salient and has 1.5-1.9 mm length. The length of esophagus is 0.3-0.4 mm (Fig. 2A). Buccal capsule has 0.1-0.12 mm deep and 0.093 mm maximum wide (Fig. 2B). The beginning of intestine is splayed enough. The excretory pore is situated in the front of vulva. A vulva is in 0.2-0.5 mm distance from the anterior end of the body (Fig. 2C). Vagina' length is 1.5-1.6 mm. Thin-walled baggy uterus is full of oval or slightly asymmetric eggs, which have 0.1x0.03 mm dimensions (Fig. 2D). Eggs contain formed larvae before oviposition.




A




B




**C** **D**

Fig. 2. *Spaulogodon saxicolae* **A** Anterior end, lateral view, **B** Buccal capsule, lateral view, **C** Tail, lateral view, **D** Uterus filled of oval eggs, lateral view.

Generalizing above mentioned we can characterize this helmint:

***Species:*** *Spauligodon saxicolae*

***Hosts:*** *D. dahli* (Darevsky, 1957), *D. raddei* (Boettger, 1892), *D. rostombekovi* (Darevsky, 1957), *D. armeniaca* (Mehely, 1909), *D. unisexualis* (Darevsky, 1966), *D.valentini* (Boettger, 1892), *D. portchinski* (Kessler, 1878)

***Site of infection:*** small intestine, cloaca.

It is widely distributed in all species of the rock lizards which confirms possible phylogenetic relations between observed species.

Comparative analysis of infestation of lizards of the species of *Darevskia* by geonematoda *Sp. saxicolae* is presented below (Fig. 3).

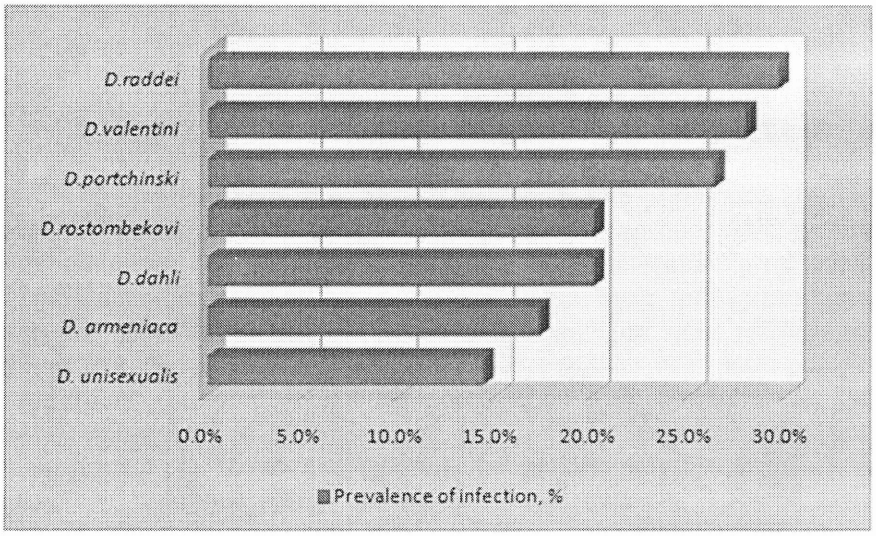



Fig. 3. Infestation of 7 species of the genus *Darevskia* by *Sp. saxicolae.*

It is shown that infestation is more extensive in bisexual species (*D. valentini, D. raddei* and *D. rostombekovi* – 20-29.5%) than in parthenogenetic ones (*D. unisexualis, D. armeniaca* and *D. dahla* – 14.2-17%).

Research in the field of detecting and describing the helminths of reptiles of Armenia as well as examination of different aspects of infestation are in progress.

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