

## Helminth parasites of reptiles (Reptilia) in Romania

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Necropsy of 82 specimens of reptiles (snakes, lizards, and turtles) was performed between 2002 and 2006 to determine the helminth fauna. We examined 7 species of reptiles: *Natrix natrix* ( $n=25$ ), *Natrix tessellata* ( $n=20$ ), *Vipera berus* ( $n=5$ ), *Coluber caspius* ( $n=12$ ), *Anguis fragilis* ( $n=2$ ), *Lacerta agilis* ( $n=10$ ), and *Emys orbicularis* ( $n=8$ ). Overall prevalence of helminthic infections in Romanian reptiles was 81.71%. In snakes, the most prevalent group of helminths was trematodes. The helminth species, their prevalence, intensity, and abundance are shown in Table 1.

In two reptile species, all individuals were infected with helminths (*N. natrix* and *E. orbicularis*). The lowest

prevalence of helminthic infection was in *C. caspius*. Three digenean trematodes, namely, *Leptophallus nigrovenosus*, *Metaleptophallus gracillimus*, and *Spirhapalum polesianum*, and three nematodes, *Entomelas entomelas*, *Strongyloides mirzai*, and *Hexametra quadricornis*, are new records for Romania. *N. natrix* has a new host record for infection with nematode genus *Eustrongylides*.

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**Table 1** Helminth infection in reptiles collected in Romania

Species of helminth	Host	Infected/Examined	Prevalence (%)	Intensity (mean intensity)	Mean abundance
<i>Polystomoides ocellatum</i>	EO	1/8	12.5	1 (1.00)	0.12
<i>Spirhapalum polesianum</i>	EO	7/8	87.5	1–3 (2.14)	1.88
<i>Encyclometra colubrimurorum</i>	NN	14/25	56.0	1–4 (2.07)	1.16
<i>Paralepoderma cloacicola</i>	NN	4/25	16.0	2–7 (4.00)	0.80
<i>Pleurogenes claviger</i>	NN	6/25	24.0	1–5 (2.33)	0.70
<i>Leptophallus nigrovenosus</i>	NN	1/25	4.0	28 (28.00)	1.12
<i>Metaleptophallus gracillimus</i>	NN	1/25	4.0	1 (1.00)	0.04
<i>Macrodera longicollis</i>	NN	15/25	60.0	1–4 (1.80)	1.35
	NT	9/20	45.0	1–2 (1.33)	0.60
<i>Neodiplostomum spathoides</i>	NN	2/25	8.0	~250–350 (~300.00)	~24.00
	CC	2/12	16.67	~150–250 (~100.00)	~33.00
<i>Alaria alata</i>	NN	1/25	4.0	72 (72.00)	2.88
<i>Ophiotaenia europaea</i>	NN	14/25	56.0	1–7 (2.07)	1.16
	NT	15/20	75.0	1–9 (3.53)	2.65
<i>Oochoristica tuberculata</i>	LA	6/10	60.0	1–6 (2.83)	1.70
<i>Spirometra</i> sp.	NN	1/25	4.0	1 (1.00)	0.04
<i>Rhabdias fuscovenosa</i>	NN	21/25	84.0	10–34 (18.47)	15.52
	NT	7/20	35.0	6–21 (12.43)	4.35
	VB	3/5	60.0	3–8 (5.00)	3.00
<i>Entomelas entomelas</i>	AF	1/2	50.0	3 (3.00)	1.50
<i>Strongyloides mirzai</i>	NN	3/25	12.0	2–4 (3.00)	0.36
<i>Hexametra quadricornis</i>	VB	1/5	20.0	1 (1.00)	0.20
<i>Falcaustra armenica</i>	EO	7/8	87.5	1–6 (3.43)	3.00
<i>Oswaldocruzia filiformis</i>	LA	8/10	80.0	2–12 (5.62)	4.50
<i>Spiroxys contortus</i>	EO	8/8	100.0	22–41 (31.25)	31.25
<i>Eustrongylides excisus</i>	NN	1/25	4.0	1 (1.00)	0.04
	NT	17/20	85.0	3–22 (11.71)	9.95

EO *Emys orbicularis*, NN *Natrix natrix*, NT *Natrix tessellata*, VB *Vipera berus*, CC *Coluber caspius*, AF *Anguis fragilis*, LA *Lacerta agilis*