

## Helminth parasites of the Balkan green lizard, *Lacerta trilineata* Bedriaga 1886, from Bursa, Turkey

Hikmet S. YILDIRIMHAN<sup>1,\*</sup>, Charles R. BURSEY<sup>2</sup>, F. Naci ALTUNEL<sup>1</sup>

<sup>1</sup>Uludağ University, Science and Literature Faculty, Department of Biology, 16059 Bursa - TURKEY

<sup>2</sup>Department of Biology, Pennsylvania State University, Shenango Campus, Sharon, Pennsylvania 16146, USA

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**Abstract:** Thirty-eight Balkan green lizards, *Lacerta trilineata*, from Turkey were examined for helminths. Three species of Digenea, *Plagiorchis elegans*, *Pleurogenoides medians*, *Brachylaemus* sp. (metacercaria); 2 species of Cestoda, *Oochoristica tuberculata* and *Mesocestoides* sp. (tetrathyridium); and 6 species of Nematoda, *Abbreviata abbreviata*, *Ascarops strongylina* (larva in cysts), *Falcaustra armenica*, *Oswaldocruzia filiformis*, *Skrjabinelazia hoffmanni*, *Skrjabinodon medinae*, were found. *Lacerta trilineata* represents a new host record for each of the parasite species; *Plagiorchis elegans*, *Brachylaemus* sp., *Oochoristica tuberculata*, *Mesocestoides* sp., *Abbreviata abbreviata*, *Ascarops strongylina* (larva), *Falcaustra armenica*, *Skrjabinelazia hoffmanni*, and *Skrjabinodon medinae* are reported from Turkey for the first time.

**Key words:** Digenea, Cestoda, Nematoda, Balkan green lizard, *Lacerta trilineata*, Turkey

### Bursa (Türkiye) ilinden toplanan İri Yeşil Kertenkele (*Lacerta trilineata*, Bedriaga 1886)'nin helmint faunası

**Özet:** 38 iri yeşil kertenkele Bursa'dan (Türkiye) (*Lacerta trilineata*) helmintleri incelenmek üzere toplanmıştır. Bulunan türlerin 3'ü Digenea; *Plagiorchis elegans*, *Pleurogenoides medians*, *Brachylaemus* sp. (metacercaria), 2'si Cestoda; *Oochoristica tuberculata*, *Mesocestoides* sp. (tetrathyridium), 6'sı Nematoda; *Abbreviata abbreviata*, *Ascarops strongylina* (kist içinde larva), *Falcaustra armenica*, *Oswaldocruzia filiformis*, *Skrjabinelazia hoffmanni*, *Skrjabinodon medinae* grubuna aittir. *Lacerta trilineata*, her bir parazit türü için yeni konak kaydı olup, bu parazitler iri yeşil kertenkeleden ilk kez rapor edilmiştir. *Plagiorchis elegans*, *Brachylaemus* sp., *Mesocestoides* sp., *Abbreviata abbreviata*, *Ascarops strongylina* (larva), *Falcaustra armenica*, *Skrjabinelazia hoffmanni*, *Skrjabinodon medinae* türleri Türkiye için yeni kayıttır.

**Anahtar sözcükler:** Digenea, Cestoda, Nematoda, İri Yeşil Kertenkele, *Lacerta trilineata*, Bursa, Türkiye

### Introduction

The Balkan green lizard, *Lacerta trilineata* Bedriaga, 1886 (Lacertidae), is known from the Adriatic Sea coast to the Balkan countries, Turkey,

Caucasus, southwestern Iran, Syria, and Israel to elevations up to 650 m (Baran and Atatur, 1998). To our knowledge, there are no reports of helminths in *L. trilineata*. The purpose of this paper is to provide an initial helminth list for *L. trilineata*.

\* E-mail: yhikmet@uludag.edu.tr

## Materials and methods

Thirty-eight specimens of *Lacerta trilineata* (23 males, 15 females, mean snout-vent length = 42 ± 4 mm, range 35-48 mm) were collected by hand 1996-1998 at Osmangazi (40°10'N, 29°01'E, 650 m elevation), Bursa province, Turkey. Lizards were killed with an overdose of sodium pentobarbital. The body cavity was opened, and the digestive tract removed. The esophagus, stomach, small and large intestine, and lungs were opened and separately examined for helminths under a dissecting microscope. Nematodes were killed in hot saline solution, fixed in 70% ethanol, and mounted in glycerol. Digeneans and cestodes were fixed in 70% ethanol, stained with iron-carmin as described by Georgiev et al. (1986), cleared in clove oil, and mounted in Entellan®. Helminth identification was based on keys given by Schmidt (1986) and Yamaguti (1961). Helminth voucher specimens were deposited in the helminth collection of Uludağ University Museum of Zoology, Bursa, Turkey. Lizard specimens were deposited in the Department of Biology, Uludağ University, Bursa, Turkey.

### *Lacerta trilineata*

#### Bedriaga, 1886

Thirty-eight *L. trilineata* (23 males, 15 females), Osmangazi, Turkey (6 collected in June 1996, 3 in May 1997, 1 in August 1997, 3 in May 1998, 7 in June 1998, 16 in July 1998, and 2 in October 1998).

## Results

### *Plagiorchis elegans*

(Rudolphi, 1802) Braun, 1902

(Syn. *Fasciola elegans* Rudolphi, 1802; *Fasciola cirratus* Rudolphi, 1802; *Distoma colubri natricis intestinale* Rudolphi, 1809; *Distoma elegans* (Rudolphi, 1802) Rudolphi, 1809; *Distoma colubri tessellati* Rudolphi, 1819; *Distoma lacertae* Rudolphi, 1819; *Distomum (Brachylaimus) elegans* (Rudolphi, 1802) Dujardin 1845; *Distomum erraticum* Linstow 1894; *Plagiorchis cirratus* (Rudolphi, 1802) Lühe, 1899; *Plagiorchis mentulatus* (Rudolphi 1819) Stossich, 1904; *Plagiorchis asperus* Stossich, 1904; *Plagiorchis notabilis* Nicoll, 1909; *Plagiorchis marii* Skrajabin, 1920; *Plagiorchis blumbergi* Massino

1927; *Plagiorchis brauni* Massino 1927; *Plagiorchis loossi* Massino 1927; *Plagiorchis massino* Petrov and Tichonoff, 1927; *Plagiorchis multiglandularis* Semenow, 1927; *Plagiorchis skrajabini* Massino 1927; *Plagiorchis uhlworni* Massino, 1927; *Plagiorchis potanini* Skrajabin, 1928; *Plagiorchis eutamiatis* Schulz, 1932; *Plagiorchis casarci* Mehra, 1937; *Plagiorchis ferrigunum* Mehra, 1937; *Plagiorchis eutamiatis* Zibethicus Vassiliev 1939; *Plagiorchis extremus* Strom, 1940; *Plagiorchis strictus* Strom, 1940; *Plagiorchis fuji* Ogata, 1941; *Plagiorchis ptschelkini* Sobolev, 1946; *Plagiorchis petrovi* Fediushin, 1949; *Plagiorchis oscineus* Sudarikov, 1950; *Plagiorchis castoris* Orloff et Moskalev, 1953; *Plagiorchis blatnensis* Chalupsky, 1954; *Plagiorchis raabei* Furmaga, 1956; *Plagiorchis stefanski* Furmaga, 1956; *Plagiorchis muris* sensu Prokopic and Genov, 1974; *Plagiorchis proximus* sensu Prokopic and Genov, 1974; *Plagiorchis cuculi* Schaladybin, Anikin, Budkin et Suslova, 1977)

*Prevalence and mean intensity:* 1/38 (3%), 1 individual.

*Temporal distribution:* 10 Jun 1996, 1 host with 1.

*Site of infection:* Small intestine.

*Type host and type locality:* House sparrow, *Passer domesticus*, Germany (Rudolphi, 1802).

*Additional Turkish records:* None.

*Other reported hosts:* **Amphibia:** yellowbelly toad, *Bombina variegata*, (Prokopic and Krivanec, 1975); pool frog, *Pelophylax lessonae*, (reported as *Rana esculenta*, Prokopic and Krivanec, 1975); common frog, *Rana temporaria*, (Capuse, 1971); **Reptilia:** sand lizard, *Lacerta agilis*, (Shevchenko and Barabashova, 1958; Moravec, 1963; Capuse, 1971; Lewin, 1992a; Shimalov et al., 2000; Sharpilo et al., 2001; Borkovcova and Kopriva, 2004); European green lizard, *Lacerta viridis*, (Capuse, 1971); viviparous lizard, *Zootoca vivipara*, (reported as *Lacerta vivipara*, Lewin, 1992b; Shimalov et al., 2000); European grass snake, *Natrix natrix* (Capuse, 1971); **Aves:** northern goshawk, *Accipiter gentilis*, (Sitko, 1998); Eurasian sparrowhawk, *Accipiter nisus*, (Sitko, 1998); spotted sandpiper, *Actitis macularius*, (Didyk et al., 2007); Balkal teal, *Anas formosa*, (Bykhovskaya-Pavlovskaya, 1962); mallard, *Anas platyrhynchos*, (Styczynska-Jurewicz, 1962); little stint, *Calidris minuta*, (Bykhovskaya-Pavlovskaya,

1962); twite, *Carduelis flavirostris*, (Massino, 1929); ruddy shelduck, *Casarca ferruginea*, (Mehra, 1937); black tern, *Chlidonias nigra*, (Massino, 1929); western marsh harrier, *Circus aeruginosus*, (Bykhovskaya-Pavlovskaya, 1953; Krasnolobova, 1987); northern harrier, *Circus cyaneus*, (Krasnolobova, 1987); pallid harrier, *Circus macrourus*, (Bykhovskaya-Pavlovskaya, 1953; Krasnolobova, 1987); common quail, *Coturnix coturnix*, (Bykhovskaya-Pavlovskaya, 1953); common raven, *Corvus corax*, (Massino, 1927); carrion crow, *Corvus corone*, (Mühling, 1896); rook, *Corvus frugilegus*, (Braun, 1902); Eurasian jackdaw, *Corvus monedula*, (Massino, 1927); corncrake, *Crex crex*, (Macko, 1969); common cuckoo, *Cucullus canorus*, (Dubinia and Kulakova, 1960); common house-martin, *Delichon urbica*, (Odening, 1961); great spotted woodpecker, *Dendrocopos major*, (Styczynska-Jurewicz, 1962); merlin, *Falco columbarius*, (Massino, 1927; Krasnolobova, 1987); peregrine falcon, *Falco peregrinus*, (Krasnolobova, 1987); Eurasian hobby, *Falco subbuteo*, (Bykhovskaya-Pavlovskaya, 1953; Styczynska-Jurewicz, 1962; Krasnolobova, 1987; Ferrer et al., 2004); Eurasian kestrel, *Falco tinnunculus*, (Sitko, 1998); red-footed falcon, *Falco vespertinus*, (Styczynska-Jurewicz, 1962; Krasnolobova, 1987); common chaffinch, *Fringilla coelebs*, (Bykhovskaya-Pavlovskaya, 1962); common snipe, *Gallinago gallinago*, (Massino, 1927); chicken, *Gallus gallus domesticus*, (Odening, 1959); Eurasian jay, *Garrulus glandarius*, (Bykhovskaya-Pavlovskaya, 1953); collared pratincole, *Glareola pratincola*, (Braun, 1902; Bykhovskaya-Pavlovskaya, 1962); barn swallow, *Hirundo rustica*, (Odening, 1961); red-backed shrike, *Lanius collurio*, (Massino, 1927); herring gull, *Larus argentatus*, (Bykhovskaya-Pavlovskaya, 1962); great black-headed gull, *Larus ichthyaetus*, (Mhaisen et al., 1990); common black-headed gull, *Larus ridibundus*, (Bykhovskaya-Pavlovskaya, 1962); Hudsonian godwit, *Limosa haemastica* (Kinsella et al., 2007); black-tailed godwit, *Limosa limosa*, (Bykhovskaya-Pavlovskaya, 1962); Eurasian black grouse, *Lyrurus tetrix*, (Bykhovskaya-Pavlovskaya, 1962); Eurasian swift, *Micropus apus*, (Odening, 1961); black kite *Milvus migrans*, (Krasnolobova, 1987); white wagtail, *Motacilla alba*, (Bykhovskaya-Pavlovskaya, 1962); yellow wagtail, *Motacilla flava*, (Bykhovskaya-Pavlovskaya, 1962); spotted flycatcher, *Muscicapa striata*, (Styczynska-

Jurewicz, 1962); Eurasian curlew, *Numenius arquata*, (Bykhovskaya-Pavlovskaya, 1962); slender-billed curlew, *Numenius tenuirostris*, (Bykhovskaya-Pavlovskaya, 1962); tufted duck, *Nyroca fuligula*, (Styczynska-Jurewicz, 1962); Eurasian golden oriole, *Oriolus oriolus*, (Bykhovskaya-Pavlovskaya, 1962); Eurasia scops owl, *Otus scops*, (Braun, 1902); osprey, *Pandion haliaetus*, (Krasnolobova, 1987); bearded reeding, *Panurus biarmicus* (Bykhovskaya-Pavlovskaya, 1962); great tit, *Parus major*, (Braun, 1902; Bykhovskaya-Pavlovskaya, 1962); house sparrow, *Passer domesticus*, (Braun, 1902); Eurasian sparrow, *Passer montanus*, (Bykhovskaya-Pavlovskaya, 1962); coal tit, *Periparus ater*, (Massino, 1929); honey buzzard, *Pernis apivorus*, (Ferrer et al., 2004); ruff, *Philomachus pugnax*, (Bykhovskaya-Pavlovskaya, 1962); black-billed magpie, *Pica pica*, (Braun, 1902); glossy ibis, *Plegadis falcinellus*, (Bykhovskaya-Pavlovskaya, 1962); dunnoek, *Prunella modularis*, (Styczynska-Jurewicz, 1962); Eurasian nuthatch, *Sitta europaea*, (Styczynska-Jurewicz, 1962); common tern, *Sterna hirundo*, (Bykhovskaya-Pavlovskaya, 1962); common starling, *Sturnus vulgaris*, (Bykhovskaya-Pavlovskaya, 1953); barred warbler, *Sylvia nisoria*, (Bykhovskaya-Pavlovskaya, 1962); hazel grouse, *Tetrastes bonasia*, (Bykhovskaya-Pavlovskaya, 1962); wood sandpiper, *Tringa glareola*, (Bykhovskaya-Pavlovskaya, 1962); fieldfare, *Turdus pilaris* (Bykhovskaya-Pavlovskaya, 1962); hoopoe, *Upupa epops*, (Bykhovskaya-Pavlovskaya, 1962); **Mammalia:** arctic fox, *Alopex lagopus*, (Malczewski, 1961; Rausch et al., 1983); striped field mouse, *Apodemus agrarius*, (Furmaga, 1956; Zarnowski, 1960; Shimalov, 2002); yellow-necked mouse, *Apodemus flavicollis*, (Matskasi, 1971); wood mouse, *Apodemus sylvaticus*, (Furmaga, 1956); dog, *Canis familiaris*, (Petrov and Tichonoff, 1927; Desrochers and Curtis, 1987); bank vole, *Clethrionomys glareolus*, (Matskasi, 1971; Tenora et al., 1983; Mazeika et al., 2003); cat, *Felis domesticus*, (Petrov and Tichonoff, 1927); harvest mouse, *Micromys minutus*, (Matskasi, 1971); common vole, *Microtus arvalis*, (Chalupsky, 1954); house mouse, *Mus musculus*, (Odening, 1959); water shrew, *Neomys fodiens*, (Panov and Karpenko, 2004); muskrat, *Ondatra zibethicus*, (Sey, 1965; Matskasi, 1971); common shrew, *Sorex araneus*, (Matskasi, 1971).

*Geographic range:* Northern hemisphere.

*Remarks:* All species of *Plagiorchis* use aquatic snails as first intermediate hosts and insects as second intermediate hosts (Roberts and Janovy, 2000). Given the broad host-range any insectivore might be expected to harbor *Plagiorchis elegans*. *Lacerta trilineata* represents a new host record for *P. elegans*; Turkey is a new locality record.

***Pleurogenoides medians* (Olsson, 1876) Travassos, 1921**

(Syn. *Distomum medians* Olsson, 1876)

*Prevalence, mean intensity, and range:* 2 of 38 (5%), 3.0 ± 2.8, 1-5.

*Temporal distribution:* 13 August 1997, 1 host with 5; 4 June 1998, 1 host with 1.

*Site of infection:* Small intestine.

*Type host and type locality:* common European toad, *Bufo bufo*, Sweden (reported as *Bufo vulgaris*, Olsson, 1876).

*Additional Turkish records:* European treefrog, *Hyla arborea*, (Dusen and Oz, 2004); marsh frog, *Pelophylax ridibundus*, (reported as *Rana ridibunda*, Yildırımhan et al., 1996; Yildırımhan et al., 2005; Dusen and Oz, 2006; Saglam and Arıkan, 2006); Caucasian brown frog, *Rana macrocnemis*, (Yildırımhan et al., 2006, reported as *Rana camerani*, Dusen, 2007).

*Other reports:* **Amphibia:** European fire-bellied toad, *Bombina bombina*, (Vojtkova, 1961; Vojtkova et al., 1963; Kozak, 1973); *Bufo bufo*, (Volna-Nabelkova, 1964; Cox, 1971; Kozak, 1973; Fernandez et al., 1986; Shimalov and Shimalov, 2001); *Hyla arborea*, (Volna-Nabelkova, 1964; Kozak, 1969, 1973); *Pelophylax lessonae*, (reported as *Rana esculenta*, André, 1913; Bovien, 1916; Kopriva, 1957; Vojtkova, 1961; Vojtkova et al., 1963; Volna-Nabelkova, 1964; Kozak, 1966, 1968, 1969, 1973; Combes et al., 1973; Prokopic and Krivanec, 1975; Kuc and Sulgostowska, 1988a; Popovic and Mikes, 1989); *Pelophylax ridibundus*, (reported as *Rana ridibunda*, Buchvarov, 1962; Combes and Gerbeaux, 1970; Cox, 1971; Kozak, 1973; Kuc and Sulgostowska, 1988b; Popovic and Mikes, 1989; Saeed et al., 2007); green toad, *Pseudepidalea viridis*, (reported as *Bufo viridis*, Kolendo, 1959); moor frog, *Rana arvalis*, (Volna-

Nabelkova, 1964; Kozak, 1973); agile frog, *Rana dalmatina*, (Kozak, 1973; Prokopic and Krivanec, 1975); *Rana temporaria* (Kopriva, 1957; Vojtkova and Krivanec, 1970; Prokopic and Krivanec, 1975; Cedhagen, 1988; reported as *Rana platyrhinus*, Bovien, 1916); common newt, *Lissotriton vulgaris*, (reported as *Triturus vulgaris*, Vojtkova, 1963; Vojtkova and Vojtek, 1972); northern crested newt, *Triturus cristatus*, (Vojtkova, 1963; Vojtkova and Vojtek, 1972); **Reptilia:** *Lacerta agilis*, (Lewin, 1992a; Sharpilo et al., 2001); Iberian wall lizard, *Podarcis hispanica*, (Roca et al, 1986a; Roca and Lluch, 1988).

*Geographic range:* Western Palaearctic.

*Remarks:* *Lacerta trilineata* represents a new host record for *P. medians*.

***Brachylaemus* sp. (metacercariae)**

*Prevalence, mean intensity, and range:* 3 of 38 (9%), 5.0 ± 6.9, 1-13.

*Temporal distribution:* 22 May 1997, 1 host with 1; 4 June 1998, 1 host with 13; 24 June 1998, 1 host with 1.

*Site of infection:* Small intestine.

*Additional Turkish records:* None.

*Other reported hosts (metacercaria in Reptilia only):* **Reptilia:** Slow worm, *Anguis fragilis*, (Lewin, 1990); *Lacerta agilis*, (Lewin, 1992a); Bocage's wall lizard, *Podarcis bocagei*, (Roca et al, 1989); Carbonell's wall lizard, *Podarcis carbonelli*, (Galdón et al., 2006); Lilford's wall lizard, *Podarcis lilfordi*, (Hornero and Roca, 1992b; Roca and Hornero, 1994); Ibiza wall lizard, *Podarcis pityusensis*, (Roca and Hornero, 1994).

*Geographic range:* For metacercaria in reptiles: Poland (Lewin, 1990); Portugal (Galdon et al., 2006); Spain (Roca et al., 1989); Turkey (this report).

*Remarks:* In the life cycle of *Brachylaemus* spp., terrestrial gastropods and rodents are intermediate and definite hosts, respectively (Gracenea and González-Moreno, 2002). The presence of *Brachylaemus* in lizards is considered atypical, probably due to ingestion of snails harboring this trematode (Galdón et al., 2006). *Lacerta trilineata* represents a new host record for the genus *Brachylaemus*. However, this occurrence should be considered as accidental parasitism. Turkey is a new locality record.

***Oochoristica tuberculata*****(Rudolphi, 1819) Lühe, 1898**

(Syn. *Taenia tuberculata* Rudolphi, 1819; *Taenia rotundata* Molin, 1859; *Taenia pseudopodis* Krabbe, 1879; *Taenia truncata* Krabbe, 1879, in part; *Oochroistica rotundata* [Molin, 1859] Parona, 1900; *Oochoristica pseudopodis* [Krabbe, 1879] Zschokke, 1905; *Oochoristica truncata* [Krabbe, 1879] Zschokke, 1905, in part; *Oochoristica indica* Misra, 1945; *Oochoristica agamae* Baylis, 1919 sensu Roca et al., 1986).

*Prevalence, mean intensity, and range:* 6 of 38 (16%), 6.5 ± 4.5, 1-11.

*Temporal distribution:* 4 May 1998, 2 hosts with 1, 7, respectively; 3 June 1998, 1 host with 9; 24 June 1998, 1 host with 10; 25 June 1998, 1 host with 11; 7 July 1998, 1 host with 1.

*Site of infection:* Small intestine.

*Type host and type locality:* Ocellated lizard, *Timon lepidus*, Spain (= *Lacerta lepida*, Rudolphi, 1819).

*Additional Turkish records:* Caucasian agama, *Laudakia caucasia*, (Yildirimhan et al., 2006).

*Other reported hosts:* **Reptilia:** fringe-fingered lizard, *Acanthodactylus erythrurus*, (Dollfus, 1958; Busack and Jaksic, 1982; Roca et al., 1986b; Roca and Lluch, 1988); rainbow lizard, *Agama agama*, (Joyeux and Baer, 1928; Della Santa, 1956); eastern garden lizard, *Calotes versicolor*, (Misra, 1945); ocellated skink, *Chalcides ocellatus*, (Lühe, 1898; Parona, 1887, 1900; Barbagallo, 1901; Rizzo, 1902; Mingazzini, 1904; Della Santa, 1956; Groschaft and Moravec, 1983; Ibrahim et al., 2005); Gran Canaria skink, *Chalcides sexlineatus*, (Lamas et al., 1985); Canarian cylindrical skink, *Chalcides viridanus*, (Roca et al., 1987); Schneider's skink, *Eumeces schneideri*, (Baer, 1928); keeled Indian mabuya, *Eutropis carinata*, (Della Santa, 1956); *Lacerta agilis*, (Ivanitsky, 1940; Della Santa, 1956; Shevechenko and Barabashova, 1958; Sharpilo et al., 2001; Mihalca et al., 2007); *Lacerta viridis*, (Della Santa, 1956); Kashmir rock agama, *Laudakia tuberculata*, (Raina et al., 1975); common wall lizard, *Podarcis muralis*, (Cerutti, 1902; Joyeux and Baer, 1936; Lopez-Neyra, 1944; Della Santa, 1956); Algerian psammmodromus,

*Psammmodromus algirus*, (Della Santa, 1956); Spanish psammmodromus, *Psammmodromus hispanicus*, (Della Santa, 1956; Roca et al., 1986b; Roca and Lluch, 1988); European glass lizard, *Pseudopus apodus*, (Della Santa, 1956; Vakker et al., 1985); sandfish skink, *Scincus scincus*, (Groschaft and Moravaec, 1983); Tenerife wall gecko, *Tarentola delalandii*, (Roca et al., 1987); common wonder gecko, *Teratoscincus scincus*, (Markov and Paraskiv, 1956); steppe agama, *Trapelus sanguinolenta*, (Della Santa, 1956); North African mastigure, *Uromastix acanthinura*, (Della Santa, 1956; Dupouy and Kehemir, 1973); desert monitor, *Varanus griseus*, (Della Santa, 1956); Sahara sand viper, *Cerastes vipera*, (Dollfus, 1932); Montpellier snake, *Malpolon monspessulanus*, (Joyeux and Gaud, 1945; Della Santa, 1956; Dupouy and Kehemir, 1973); striped sand snake, *Psammophis sibilans*, (Joyeux and Baer, 1928).

*Geographic range:* Palaearctic (Della Santa, 1956).

*Remarks:* *Oochoristica*, a cosmopolitan genus of cestodes parasitic in lizards, snakes, and turtles, was erected by Lühe (1898) to receive a revision of the cestode, *Taenia tuberculata*, originally described by Rudolphi (1819). Since then, over 65 species have been assigned to the genus (see Schmidt, 1986). Several of these species have been shown to exhibit marked similarity and synonymy has often been proposed. For example, Baer (1927) considered *Taenia* (= *Oochoristica*) *truncata* Krabbe, 1879 to be a synonym of *O. tuberculata* Dollfus (1932) and Hughes (1940) also advocated synonymy. However, Spasskii (1951) considered geographic distribution (western Palaearctic vs. Africa) sufficient to separate the 2 species and did not accept the synonymy but did synonymize *Oochoristica agamae* Baylis, 1919; *Oochoristica africana* Malan, 1939; and *Oochoristica africana* var. *ookispensis* Malan, 1939 with *O. truncata*. Raina et al. (1975) in their report of cestodes from *Agama tuberculata* collected in Kashmir discuss the difficulty of assigning their specimens to *O. truncata* or *O. tuberculata* and after comparing structural attributes of the 2 species concluded that *O. truncata* is a synonym of *O. tuberculata*. We refer all published Palaearctic occurrences of *O. truncata* to *O. tuberculata* and retain, at least temporarily, sub-Saharan occurrences as *O. truncata*.

**Mesocestoides sp. (tetrathyridium)**

*Prevalence, and intensity:* 1 of 38 (3%), 80.

*Temporal distribution:* 10 June 1996, 1 host with 80.

*Site of infection:* Body cavity.

*Additional Turkish records:* None.

*Other reported hosts: Reptilia:* *Anguis fragilis* (Lewin, 1990); *Lacerta agilis* (Lewin, 1992a; Sharpilo et al., 2001); Iberian emerald lizard, *Lacerta schreiberi*, (Roca and Ferragut, 1989); *Lacerta viridis*, (Biserkov and Kostadinova, 1980); secret toadhead agama, *Phrynocephalus mystaceus*, (Ikromov and Cho, 2004); *Podarcis bocagei*, (Roca et al., 1989); *Podarcis hispanica*, (Roca et al., 1989); *Podarcis muralis*, (Kirin, 2002a); *Podarcis pityusensis*, (Roca and Hornero, 1994); *Psammotromus hispanicus*, (Roca et al., 1986b; Roca and Lluch, 1988); smooth snake, *Coronella austriaca*, (Biserkov, 1996); Aesculapean snake, *Zamenis longissimus* (reported as *Elaphe longissima*, Biserkov, 1996); Haly's pit viper, *Glodius halys*, (reported as *Ancystrodon halys*, Bogdanov et al., 1969); *Natrix natrix*, (Lewin, 1992b).

*Geographic range:* Cosmopolitan (McAllister et al., 1991).

*Remarks:* The life cycle of *Mesocestoides* spp. is thought to require 3 hosts, i.e. a vertebrate definite host, a vertebrate second intermediate host, and a purported arthropod first intermediate host (Rausch, 1994). Tetrathyrida are frequently found in the body cavities of amphibians, reptiles, and rodents (Padgett and Boyce, 2004). *Lacerta trilineata* represents a new host record for the genus *Mesocestoides*. Turkey is a new locality record.

***Abbreviata abbreviata***

**(Rudolphi, 1819) Travassos, 1920**

*Prevalence, mean intensity, and range:* 1 of 38 (3%), 15.

*Temporal distribution:* 10 June 1996, 1 host with 15.

*Site of infection:* Stomach.

*Type host and type locality:* unknown lizard, Spain (Rudolphi, 1819).

*Additional Turkish records:* None.

*Other reports: Reptilia:* *Lacerta agilis*, (Goldin, 1975); *Lacerta schreiberi*, (Roca and Ferragut, 1989); Algerian ocellated lizard, *Timon pater*, (Seurat, 1917); *Dolichophis jugularis*, (reported as *Coluber jugularis*, Biserkov, 1995); *Natrix natrix*, (Kirin, 2002b); *Platyceps najadum*, (reported as *Coluber najadum*, Biserkov, 1995); *Vipera ammodytes*, (Biserkov, 1995).

*Geographic range:* Algeria (Seurat, 1917); Bulgaria (Biserkov, 1995); Crimea (Goldin, 1975); Spain (Roca and Ferragut, 1989); Turkey (this report).

*Remarks:* *Lacerta trilineata* represents a new host record for *A. abbreviata*; Turkey is a new locality record.

***Ascarops strongylina***

**(Rudolphi, 1819) Alicata and McIntosh, 1933**

**(larvae in cysts)**

(Syn. *Spiroptera strongylina* Rudolphi, 1819).

*Prevalence and intensity:* 1 of 38 (3%), 7.

*Temporal distribution:* 10 July 1998, 1 host with 7.

*Site of infection:* cysts on stomach wall.

*Type host and type locality:* Mammal, pig, *Sus scrofa*, Europe (Rudolphi, 1819).

*Additional Turkish records:* None

*Other reports: Amphibia:* *Bufo viridis*, (Vashetko and Siddikov, 1999); **Reptilia:** *Anguis fragilis*, (Shimalov et al., 2000); *Lacerta agilis*, (Shimalov et al., 2000; Sharpilo et al., 2001); *Zootoca vivipara*, (reported as *Lacerta vivipara*, (Shimalov et al., 2000); large whip snake, *Dolichophis jugularis*, (reported as *Coluber jugularis*, Biserkov, 1995); Dahl's whip snake, *Platyceps najadum*, (reported as *Coluber najadum*, Biserkov, 1995); *Coronella austriaca*, (Shimalov and Shimalov, 2000); *Gloydius halys* (reported as *Ancystrodon halys*, Bogdanov et al., 1969); *Malpolon monspessulanus*, (Biserkov, 1995), *Natrix natrix*, (Shimalov and Shimalov, 2000); Asp viper, *Vipera aspis*, (Santos et al., 2006); *Vipera berus*, (Shimalov and Simalov, 2000); Lataste's viper, *Vipera latastei* (Santos et al., 2006).

*Geographic range:* Cosmopolitan (Yamaguti, 1961).

*Remarks:* Only western Palaearctic records of larval infections are given here. Larvae in cysts are frequently found in the body cavities of amphibians, reptiles, birds, and mammals (Goldberg and Bursey, 2000). *Lacerta trilineata* represents a new host record for larva of *Ascrops strongylina*. Turkey is a new locality record.

***Falcaustra armenica***

**Massino, 1924**

(Syn. *Spironoura armenica* [Massino 1924] Yorke and Maplestone, 1926).

*Prevalence and intensity:* 1 of 38 (3%), 10.

*Temporal distribution:* 10 June 1996, 1 host with 10.

*Site of infection:* Large intestine.

*Type host and type locality:* European pond turtle, *Emys orbicularis*, Armenia (Massino, 1924).

*Additional Turkish records:* *Emys orbicularis*, (reported as *Spironoura armenica*, Yildirimhan and Şahin, 2005); Western Caspian turtle, *Mauremys rivulata*, (Yildirimhan et al., 2005).

*Other reports:* **Reptilia:** *Emys orbicularis*, (Ivanitzky, 1940; Hristovski, 1973; Sharpilo, 1976; Velikanov, 1982, Mihalca et al., 2007); Caspian turtle, *Mauremys caspica*, (reported as *Clemmys caspica*, Hristovski, 1973; Sharpilo, 1976; Lees et al., 1985).

*Geographic range:* Central Asia (Sharpilo, 1976); Romania (Mihalca et al., 2007); Turkey (Yildirimhan and Şahin, 2005); Yugoslavia (Hristovski, 1973).

*Remarks:* *Lacerta trilineata* represents a new host record for *F. armenica*.

***Oswaldocruzia filiformis***

**(Goeze, 1782) Travassos, 1917**

(Syn. *Ascaris filiformis*, Goeze, 1782; *Cucullanus ranae* Goeze, 1782; *Ascaris tennissima* Schrank, 1788; *Ascaris intestinalis* Gmelin, 1790; *Ascaris bufonis* Gmelin, 1790; *Strongylus auricularis* Zeder, 1800; *Ascaris setiformis* Goeze in Zeder, 1800; *Strongylus dispar* Dujardin, 1845; *Oswaldocruzia insulae* Morishita, 1923; *Strongylus bialata* Molin, 1861; *Oswaldocruzia molgeta* Lewis, 1928; *Oswaldocruzia skrjabini* Travassos, 1937; *Oswaldocruzia problematica* Ivanitzky, 1940; *Oswaldocruzia goezi* Skrjabin and Schulz, 1952)

*Prevalence, mean intensity, and range:* Hosts infected, 2 of 36 (5%), 1.5 ± 0.7, 1-2.

*Temporal distribution:* 2 July 1998, 2 hosts with 1, 2, respectively.

*Site of infection:* Small intestine.

*Additional Turkish hosts:* Square-marked toad, *Amietophrynus regularis*, (reported as *Bufo regularis*, Schad et al., 1960); *Bufo bufo*, (Yildirimhan and Karadeniz, 2007); *Pseudepidalea viridis*, (reported as *Bufo viridis*, Schad et al., 1960; Yildirimhan, 1999); *Hyla arborea*, (Yildirimhan, Altunel, et al., 2006); *Rana macrocnemis*, (Schad et al. 1960; Yildirimhan et al., 1997; Yildirimhan, Bursey et al., 2006; reported as *Rana camerani*, Yildirimhan, Goldberg et al., 2006); *Pelophylax ridibundus* (reported as *Rana ridibunda*, Yildirimhan, et al., 2005; Sağlam and Arıkan, 2006); banded newt, *Ommatotriton vittatus*, (reported as *Triturus vittatus*, Yildirimhan, 2008); *Anguis fragilis*, (Schad et al., 1960); Crimean wall lizard, *Podarcis tauricus*, (reported as *Lacerta taurica*, Schad et al., 1960); *Lacerta viridis*, (Schad et al., 1960).

*Type host and locality:* *Rana temporaria*, Europe (Goeze, 1782).

*Other reported hosts:* **Pisces.** chub, *Leuciscus cephalus*, (Moravec and Scholz, 1991); burbot, *Lota lota*, (Novokhatskaya, 2007). **Amphibia.** *Bombina bombina*, (Volna-Nabelkova, 1964; Kozák, 1969, 1973; Moravec and Vojtková, 1975; Prokopic and Krivanec, 1975; Rozman, 1976; Vojtková, 1976); *Bombina variegata*, (Prokopic, 1957; Buchvarov, 1962; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Prokopic and Krivanec, 1975; Rozman, 1976; Vojtková, 1976; Kirin and Buchvarov, 2002a); *Bufo bufo*, (John, 1957; Prokopic, 1957; Kozłowska, 1960; Vojtková, 1961, 1976; Buchvarov, 1962; Vojtková et al, 1963; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Hristovski and Riggio, 1971; Schmidt and Enigk, 1972; Canning et al., 1973; Frandsen, 1974; Moravec and Vojtková, 1975; Prokopic and Krivanec, 1975; Rozman, 1976; Ryzhikov et al., 1980; Hendrikx, 1983; Galli et al., 2001; Shimalov and Shimalov, 2001; reported as *Bufo vulgaris*, Baylis, 1928; Travassos, 1937); Himalayan toad, *Duttaphrynus himalayanus* (reported as *Bufo himalayanus*, Soota and Dey Sarka, 1980); natterjack toad, *Epidalea calamita* (reported as *Bufo calamita*, Frandsen, 1974); *Euphlyctis cyanophlyctis*, (Tandon et al., 2001); *Hyla arborea*, (Kozłowska, 1960; Vojtková,

- 1961, 1976; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Frandsen, 1974; Hristovski and Riggio, 1974; Prokopic and Krivanec, 1975; Rozman, 1976; Ryzhikov et al., 1980); Mediterranean treefrog, *Hyla meridionalis*, (Baker, 1981; Galeano et al., 1990); *Pelobates fuscus*, (Kozłowska, 1960; Kozák, 1969, 1973; Prokopic and Krivanec, 1975; Antsyshkina et al., 1976; Vojtková, 1976; Ryzhikov et al., 1980); *Pelophylax lessonae* (reported as *Rana lessonae*, Borisova, 1988; reported as *Rana esculenta*, Rozman, 1971, 1976; Ryzhikov et al., 1980); *Rana macrocnemis*, (Ryzhikov et al., 1980); marsh frog, *Pelophylax ridibundus*, (reported as *Rana ridibunda*, Dubinina, 1950; Buchvarov, 1962, 1965; Tscherner, 1966; Kozák, 1969, 1973; Combes and Gerbeaux, 1970; Frandsen, 1974; Buchvarov et al., 1975; Prokopic and Krivanec, 1975; Rozman, 1976; Ryzhikov et al., 1980; Kirin and Buchvarov, 2002b; reported as *Rana esculenta*, Kozłowska, 1960; Vojtková, 1961, 1976; Vojtková et al., 1963; Volna-Nabelkova, 1964; Kozák, 1968; Plasota, 1969; Messner and Kerstan, 1978; Kuc and Sulgostowska, 1988a); *Pseudepidalea viridis* (reported as *Bufo viridis*, Kolendo, 1959; Kozłowska, 1960; Volna-Nabelkova, 1964; Buchvarov, 1965; Kozák, 1969, 1973; Frandsen, 1974; Hristovski and Riggio, 1974; Buchvarov et al., 1975; Prokopic and Krivanec, 1975; Vojtková, 1976; Ryzhikov et al., 1980; Al-Barwari and Nassir, 1983; Vashetko and Siddikov, 1999; Rozman, 1976; Shimalov and Shimalov, 2001; Saeed et al., 2007); Khabarovsk frog, *Rana amurensis*, (Ryzhikov et al., 1980); moor frog, *Rana arvalis*, (Prokopic, 1957; Kozłowska, 1960; Vojtková et al., 1963; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Plasota, 1969; Frandsen, 1974; Prokopic and Krivanec, 1975; Antsyshkin et al., 1976; Vojtková, 1976; Ryzhikov et al., 1980; Borisova, 1988; Cedhagen, 1988; Kuc and Sulgostowska, 1988a; Zhigileva, 2007); spring frog, *Rana dalmatina*, (Buchvarov, 1962; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Frandsen, 1974; Buchvarov et al., 1975; Prokopic and Krivanec, 1975; Vojtková, 1976; Moravec and Scholz, 1991; Kirin and Buchvarov, 2002b; reported as *Rana agilis*, Prokopic, 1957; Rozman, 1976); Balkan stream frog, *Rana graeca*, (Hristovski, 1974); European frog, *Rana temporaria*, (Baylis, 1928; Travassos, 1937; Ivanitzky, 1940; Kozłowska, 1960; Lees, 1962; Vojtková et al., 1963; Volna-Nabelkova, 1964; Kozák, 1969, 1973; Combes et al., 1971; Hristovski and Lees, 1973; Frandsen, 1974; Moravec and Vojtková, 1975; Prokopic and Krivanec, 1975; Rozman, 1976; Vojtková, 1976; Ryzhikov et al., 1980; Sattmann, 1986; Cedhagen, 1988; Kuc and Sulgostowska, 1988a; Griffin, 1988, 1989; Kirin and Buchvarov, 2002a); Sardinia salamander, *Atylodes genei* (reported as *Speleomantes genei*, Ricci, 1987); fire salamander, *Salamandra salamandra*, (Barus et al., 1963; Moravec and Vojtková, 1975; Grabda and Grabda, 1953; Bertman, 1986); Laurenti's alpine newt, *Ichthyosaura alpestris* (reported as *Triturus alpestris*, Barus and Groschafft, 1962); palmate newt, *Lissotriton helveticus* (reported as *Molge palmate*, Lewis, 1928; reported as *Triturus helveticus*, Avery, 1971); smooth newt, *Lissotriton vulgaris* (reported as *Molge vulgaris*, Baylis, 1928; Lewis, 1928; Hsü and Chow, 1938; reported as *Triturus vulgaris*, Tranko-Tulecka, 1959; Kozłowska, 1960; Barus and Groschafft, 1962; Vojtková, 1963, 1976; Avery, 1971; Daiya, 1973; Frandsen, 1974; Moravec and Vojtková, 1975; Ryzhikov, et al. 1980); northern crested newt, *Triturus cristatus*, (Kozłowska, 1960; Frandsen, 1974; Vojtková, 1976; Bertman, 1994). **Reptilia.** *Anguis fragilis*, (Sharpilo, 1962, 1976; Moravec, 1963; Bertman and Okulewicz, 1987; Lewin, 1990; Shimalov et al., 2000; Borkovcova and Kopriva, 2005); *Lacerta agilis*, (Shevechenko and Barabashova, 1958; Moravec, 1963; Moravec and Vojtková, 1975; Okulewicz, 1976; Lewin, 1992b; Shimalov et al., 2000; Sharpilo et al., 2001); *Lacerta viridis*, (Moravec, 1963; Marconcini and Triantafillu, 1970; Moravec and Vojtková, 1975; Biserkov and Kostadinova, 1998; Kirin, 2002a; Borkovcova and Kopriva, 2005); armored glass lizard, *Pseudopus apodus*, (reported as *Ophisaurus apodus*, Sharpilo, 1976); Amur grass lizard, *Takydromus amurensis*, (Sharpilo, 1976); *Zootoca vivipara*, (Sanchis et al., 2000; reported as *Lacerta vivipara*, Travassos, 1937; Moravec, 1963; Moravec and Vojtková, 1975; Shimalov et al., 2000); *Coronella austriaca*, (Sharpilo, 1976); *Natrix natrix*, (Moravec, 1963; Kozák, 1967; Moravec and Vojtková, 1975; Bertman and Okulewicz, 1987; Lewin, 1992a; Biserkov, 1995; Shimalov and Shimalov, 2000; Kirin, 2002b); *Natrix tessellata*, (Sharpilo, 1976); European catsnake, *Telescopus fallax*, (Sharpilo, 1976); *Vipera ammodytes*, (Sharpilo, 1976); adder, *Vipera berus*, (Moravec, 1963; Markov and Mozgovoï, 1969; Moravec and Vojtková, 1975; Shimalov and Shimalov, 2000; Novokhatskaya, 2008).



Table. Helminths of Turkish lizards (1. Schad et al., 1960; 2. Tinar, 1982; 3. Tinar, 1983; 4. Saygı et al., 1993; 5. Yıldırımhan et al., 2006; 6. Yıldırımhan et al. 2008; 7. Yıldırımhan et al., 2009; 8. this paper.

Lizard species	<i>Anguis fragilis</i>	<i>Bianus strauchi</i>	<i>Hemidactylus turcicus</i>	<i>Lacerta parva</i>	<i>Lacerta trilineata</i>	<i>Lacerta viridis</i>	<i>Laudakia caucasia</i>	<i>Yauramia bkeyyio</i>	<i>Podarcis tauricus</i>
Helminth									
Digenea									
<i>Plagiorchis elegans</i>	---	---	---	---	8	---	---	---	---
<i>Pleurogenoides medians</i>	---	---	---	---	8	---	---	---	---
<i>Brachylaemus</i> sp. (metacercaria)	---	---	---	---	8	---	---	---	---
Cestoda									
<i>Oochoristica tuberculata</i>	---	---	---	---	8	---	5	---	---
<i>Joyeuxiella pasqualei</i>	---	---	3	---	---	---	---	---	---
<i>Mesocestoides</i> sp. (tetrathyridia)	---	---	---	---	8	---	---	---	---
Nematoda									
<i>Abbreviata abbreviata</i>	---	---	---	---	8	---	---	---	---
<i>Ascrops strongylina</i> (larva)	---	---	---	---	8	---	---	---	---
Ascaridae (larva)	---	---	---	---	---	---	---	5	---
<i>Entomelas entomelas</i>	1	---	---	---	---	---	---	---	---
<i>Falcaustra armenica</i>	---	---	---	---	8	---	---	---	---
<i>Foleyella candezei</i>	---	---	---	---	---	---	5	5	---
<i>Oswaldocruzia filiformis</i>	1	---	---	---	---	1	---	---	1
<i>Oxysomatium brevicaudatum</i>	1	---	---	---	---	---	---	---	---
<i>Parapharyngodon kasauli</i>	---	---	---	---	---	---	---	---	1
<i>Parapharyngodon tyche</i>	---	---	---	---	---	---	5	5	---
<i>Parapharyngodon micipsae</i>	---	7	---	---	---	---	---	---	---
<i>Physaloptera</i> sp. (larva)	---	---	---	---	---	1	---	---	---
<i>Spauligodon cinsi</i>	---	---	---	4	---	---	---	---	---
<i>Spauligodon laevicauda</i>	---	---	2,3,6	---	---	---	---	---	---
<i>Skrjabinodon medinae</i>	---	---	---	---	8	---	---	---	---
<i>Skrjabinelazia hoffmanni</i>	---	---	---	---	8	---	---	---	---
<i>Skrjabinelazia taurica</i>	---	---	---	---	---	---	---	---	1
<i>Strongyluris calotis</i>	---	---	---	---	---	---	---	5	---
<i>Thelandros baylisi</i>	---	---	---	---	---	---	5	---	---
<i>Thelandros taylori</i>	---	---	---	---	---	---	---	5	---
<i>Thelastomoides</i> sp.	---	7	---	---	---	---	---	---	---
Acanthocephala									
<i>Macracanthorhynchus catulinus</i>	---	---	6	---	---	---	---	---	---

*Geographic range:* Europe (Baker, 1987).

*Remarks:* *Lacerta trilineata* represents a new host record for *O. filiformis*.

***Skrjabinelazia hoffmanni* Li, 1934**

*Prevalence and intensity:* 1 of 38 (3%), 26.

*Temporal distribution:* 24 June 1998, 1 host with 26.

*Site of infection:* Small intestine.

*Type host and type locality:* Mongolia racerunner, *Eremias agus*, China (Li, 1934).

*Additional Turkish records:* None.

*Other reports:* **Reptilia:** comb-toed gecko, *Crossobamon eversmanni*, (Sharpilo, 1976); Kirghiz racerunner, *Eremias nikolskii*, (Sharpilo, 1976); *Lacerta agilis*, (Sharpilo, 1976; Sharpilo et al, 2001); Azerbaijan lizard, *Darevskia raddei*, reported as *Lacerta raddei*, Khomustenka and Ataev, 1979); Caucasian rock lizard, *Darevskia saxicola*, (reported as *Lacerta saxicola*, Sharpilo, 1976); *Lacerta viridis*, (Biserkov and Kostadinova, 1998); *Podarcis bocagei*, (Galdón et al., 2006); Carbonell's wall lizard, *Podarcis carbonelli* (Galdón et al., 2006); *Podarcis lilfordi*, (Hornero and Roca, 1992b; Roca and Hornero, 1994); *Podarcis muralis*, (Kirin, 2002a); *Tarentola angustimentalis*, (Roca et al., 1990); *Teratoscincus scincus*, (Sharpilo, 1976).

*Geographic range:* Azerbaijan (Khomustenka and Ataev, 1979); Bulgaria (Biserkov and Kostadinova, 1998); Central Asia (Sharpilo, 1976); China (Li, 1934); Portugal (Galdón et al., 2006); Spain (Hornero and Roca, 1992b); Turkey (this report).

*Remarks:* *Lacerta trilineata* represents a new host record for *S. hoffmanni*; Turkey is a new locality record.

***Skrjabinodon medinae***

**(García-Calvente, 1948) Specian and Ubelaker, 1974**

(Syn. *Pharyngodon medinae* García-Calvente 1948; *Parathelandros medinae* [García-Calvente, 1948] Read and Amrein, 1953).

*Prevalence, mean intensity, and range:* 3 of 38 (8%), 5.0 ± 3.0, 2-8.

*Temporal distribution:* 10 June 1996, 1 host with 8; 4 May 1998, 2 hosts with 2, 5, respectively.

*Site of infection:* Large intestine.

*Type host and type locality:* *Lacerta muralis*, Spain (García-Calvente, 1948)

*Additional Turkish records:* None.

*Other reports:* **Reptilia:** *Podarcis muralis*, (Dollfus et al., 1961; Hornero and Roca, 1992a); *Lacerta schreiberi*, (Roca and Ferragut, 1989); *Podarcis bocagei*, (Roca et al., 1989); *Podarcis hispanica*, (Roca et al., 1986a; Roca and Lluch 1988; Roca et al., 1989; Hornero and Roca, 1992a); *Podarcis lilfordi*, (Hornero and Roca, 1992b; Roca and Hornero, 1994); *Podarcis pityusensis*, (Hornero and Roca, 1992a; Roca and Hornero, 1994); *Zootoca vivipara* (reported as *Lacerta vivipara*, Dollfus et al., 1961)

*Geographic range:* France (Dollfus et al., 1961); Spain (García-Calvente, 1948); Turkey (this report).

*Remarks:* *Lacerta trilineata* represents a new host record for *S. medinae*; Turkey is a new locality record.

## Discussion

Sixteen (42%) of 38 *Lacerta trilineata* harbored 217 helminths representing 11 species: 12 lizards harbored 1 species, 3 lizards harbored 2 species, and 1 harbored 4 species. There were 13.6 ± 25.5 SD helminth individuals per infected host and 1.4 ± 0.8 helminth species per infected host.

To our knowledge, helminth lists are available for 5 species of Turkish lizards, *Anguis fragilis*, *Blanus strauchi*, *Hemidactylus turcicus*, *Lacerta parva*, *Lacerta viridis*, *Laudakia caucasia*, *Laudakia stellio*, and *Podarcis tauricus* (Schad et al., 1960; Tinar, 1982, 1983; Yıldırımhan et al., 2006, 2008, 2009). This report presents an initial helminth list for the ninth species. Baran and Atatür (1998) identify 53 species known to occur in Turkey; thus, additional studies will be required before the component community of helminths infecting Turkish lizards can be determined. Currently, we can say that Turkish lizards are infected by generalist nematodes, i.e. nematode species that infect more than one host species. A summary of known Turkish lizard helminths is presented in the Table.

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