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HELMINTHS OF THE MADREAN ALLIGATOR LIZARD, ELGARIA KINGII (SAURIA: ANGUIDAE), FROM ARIZONA

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Key words: Elgaria kingii, Anguidae, helminths, Arizona.

The Madrean alligator lizard, Elgaria kingii Gray, 1838, occurs from the southern edge of the central plateau of Arizona southward in the Sierra Madre of México to Jalisco, México; it frequents chaparral, oak woodland, and pine-fir forests and occurs from 760 to 2070 m (Stebbins 1985). There are no accounts of helminths from this species. The purpose of our paper is twofold: to provide the first report of helminths from E. kingii collected in Arizona and to furnish a list of parasites known from the genus Elgaria.

We borrowed 31 E. kingii from Arizona from the herpetology collection of the University of Arizona (UAZ), Tuscon (mean snout-vent length, 68 mm, 8.2 s, range 48-80 mm). The lizards were originally preserved in 10% formalin and stored in 70% isopropanol. Specimens examined are listed by county of collection in Appendix 1. The body cavity was opened and the gastrointestinal tract excised by cutting across the esophagus and rectum. The esophagus, stomach, and small and large intestines were slit longitudinally and examined separately under a dissecting microscope. The body cavity and liver surface were also examined. Each helminth was removed to a temporary glycerol mount for examination. Nematodes were identified from these temporary mounts. Cestodes were stained in hematoxylin and mounted in Canada balsam for identification. Voucher specimens were deposited in the U.S. National Parasite Collection (Appendix 2). Terminology usage is in accordance with Bush et al. (1997).

Elgaria kingii harbored 2 species of cestodes, Mesoecestoides sp. (tetrahyridia) and Oochoristica euneonis Harwood, 1932, and 4 species of nematodes: Cosmocercoides variabilis (Harwood, 1930) Travassos, 1931, Spauligodon goldbergi Burscy and McAllister, 1996, Physaloptera sp. (larvae), and Skrjabinoptera sp. (larvae). Prevalence, mean intensity, range and mean abundance are given in Table 1. Elgaria kingii is a new host record for each helminth species.

None of the helminths found in this study was unique to Elgaria kingii. Gravid individuals of the following 3 species were found. Oochoristica euneonis was originally described from the skink, Eumeces fasciatus, from Texas (Harwood 1932) and has been reported from Ctenosaura pectinata from México (Flores-Barroeta et al. 1958); E. kingii is the 3rd host record. Cosmocercoides variabilis is known from a variety of amphibians and reptiles from North America (Baker 1987); E. kingii represents the 26th host record. Spauligodon goldbergi was originally described from the ground snake, Sonora seminulata, from central Texas by Burscy and McAllister (1996); E. kingii is the 2nd host record.

Three species of helminths were represented by immature forms. Tetrahyridia of Mesoecestoides sp. occur commonly in the coelomic cavities of lizards and snakes which are considered to be paratenic hosts (Bolette 1997). Adults of Physaloptera and Skrjabinoptera are frequently seen gastric parasites of lizards (Baker 1987). Because only 3rd-stage larvae of these 2 genera were found, their importance to the helminth load of E. kingii cannot be assessed.

Parasite lists (Table 2) can now be developed for 3 of 4 species of Elgaria occurring in North America, namely, E. coerules, E. kingii, and E. multicarinata; E. panamintina has not yet been examined. There is some overlap in

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the helminth genera harbored (Table 2), but too few helminths have been found to evaluate the helminth community in species of Elgaria. Except for the 64% (16/25) prevalence of the cestode Baerietta gerrhonoti reported by Telford (1965), prevalences of helminth species of Elgaria are low.

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LITERATURE CITED


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**Appendix 1**

Museum accession numbers for specimens of *Elgaria kingii* (N = 31) from the University of Arizona (UAZ) listed by Arizona County. Cochise (UAZ 15501, 15691, 36871, 37918–37920, 39487, 39711, 39715, 40032–40033, 40308, 40538–40539, 40541–40543, 40544, 40547, 46845, 47297, 49012); Gila (UAZ 36731, 40309); Graham (UAZ 36362, 39710, 43862); Pima (UAZ 11248, 19773–19774); Santa Cruz (UAZ 11190, 49171).

**Appendix 2**