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## ANURA

**ASCAPHUS TRUEI** (Tailed Frog). **SPIDER PREY.** Few data describe the diet of the postmetamorphic *Ascaphus truei*. Springtails (Collembola), amphipods (Amphipoda), stonefly nymphs (Plecoptera), fly larvae (Diptera), and beetle larvae (Coleoptera) dominated the prey of 11 adult and 39 juvenile *A. truei* from Trinity County, California (Bury 1970. *Copeia* 1970:170–171). Bury (1970, *op. cit.*) also reported that six juvenile *A. truei* had each taken a spider (Araneae), but these were not identified to species, a condition necessary to properly interpret predator-prey natural history. Here, we report the first observation of spider prey identified to species for adult *A. truei*.

On 14 Aug 2006 at 1530 h, FTW found an adult male (36 mm SVL) *A. truei* along an unnamed headwater tributary of the South Fork Willapa River, Pacific County, Washington (46.5790N, 123.7239W, NAD 27, 224 m elev.). The stream is 2<sup>nd</sup>-order (*sensu* Strahler 1952. *Geol. Soc. Am. Bull.* 63:1117–1142), ca. 0.8 m wide, and located within a 55-year old second-growth mixed Western Hemlock (*Tsuga heterophylla*) and Douglas-fir (*Pseudotsuga menziesii*) managed forest on an intrusive basalt geology. The riparian canopy was undifferentiated from Western Hemlock/Douglas-fir vegetation upslope, but the riparian understory was differentiated by scattered Stink Currant (*Ribes bracteosum*), Salmonberry (*Rubus spectabilis*), Lady Fern (*Athyrium filix-femina*), and Fringecup (*Tellima grandiflora*). Skies were clear; air temperature was 18°C. The frog, captured <1 m from the stream, had an adult (ca. 13 mm cephalothorax–abdominal length) male Folding-door Spider, *Antrodiaetus pacificus*, in its mouth. FTW removed the spider from the frog, preserved it, and measured and released the frog at the capture site.

*Antrodiaetus pacificus* is a soil-dwelling spider in the Suborder Mygalomorphae, which also includes tarantulas (Coyle 1971. *Bull. Mus. Comp. Zool.* 141:269–402). Though relatively small for a mygalomorph, it is one of the larger spider species in Willapa Hills conifer forests. Females live in burrows, whereas mature males wander seasonally in search of mates. As the species is often recorded from riparian forest habitats in the Pacific Northwest (Parsons et al. 1991. *Invertebrates of the H. J. Andrews Experimental Forest, Western Cascade Range, Oregon. V: An Annotated List of Insects and Other Arthropods.* USDA Forest Service, GTR, PNW-GTR-290, Portland, Oregon; Johnston 1994. *California Forests and Woodlands: A Natural History.* Univ. California Press, Berkeley. 222 pp.; Hocking and Reimchen 2002. *BMC Ecology* 2:4), terrestrial stream-margin wandering of males may make them vulnerable to adult *A. truei*, which can be common in this habitat (Jones et al. 2006. *Amphibians of the Pacific Northwest.* Seattle Audubon Society, Seattle, Washington. 227 pp.). However, at any given site, availability of male *Antrodiaetus* as prey is likely limited to a few days each year, varying from early August to October for different coastal Washington populations of the spider (Coyle, *op. cit.*; RLC, unpubl. data). Many more common spiders are available as frog prey in this habitat, including some ground dwellers

in the same size range as *Antrodiaetus* (e.g., *Cybaeus* spp. [family Cybaeidae], which are abundant much of the year in coastal conifer forests).

The *A. pacificus* was deposited in the Arachnology collection at the University of Washington Burke Museum. This is contribution No. 13 of the Forests and Fish Section of the Washington Department of Fish and Wildlife's Habitat Program Science Division.

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**BUFO AMERICANUS** (American Toad). **HINDLIMB DEFORMITIES.** Amphibian ecologists and the public have recently given a great deal of attention to the issue of amphibian limb deformities. It has become evident there are many causes of amphibian deformities (e.g., Blaustein and Johnson 2003. *Front. Ecol. Environ.* 1:87–94; Sessions 2003. *In* Semlitsch [ed.], *Amphibian Conservation*, pp. 168–186. Smithsonian Press, Washington, D.C.). To better understand the extent and effects of amphibian limb deformities, additional information is needed on the rates of amphibian limb deformities from a variety of locations and species, particularly from ponds that appear relatively undisturbed or contaminated, to provide a better baseline for comparison to mass deformity events.

While collecting information on the performance of metamorphs from three local ponds, we examined several hundred American Toad tadpoles for limb deformities. The three ponds (Spring Peeper, Olde Minnow, and Taylor-Ochs) examined were on the Denison University Biological Reserve (Granville, Licking County, Ohio, USA) and are apparently free from any major pollutants or disturbance (see Schultz and Mick 1998. *Ohio Biol. Surv. Notes* 1:31–38 for a description of the ponds). We collected American Toad metamorphs from the water's edge of each pond from 2–9 June 2006. Each metamorph was examined for deformities and the type of deformity, if present, was recorded. We found hind limb deformities of varying degrees in two of the three ponds (Table 1). The observed frequencies of hind limb deformities in the three ponds ranged from 0–3.6%. These values fall within the range of frequencies observed in other species for historical records (i.e., prior

TABLE 1. Incidence of hindlimb deformities in American Toad, *Bufo americanus*, metamorphs from three ponds in central Ohio. All deformities were ectromelia of the femur or the tibiafibula (*sensu* Meteyer 2000. *Field Guide to Malformations of Frogs and Toads with Radiographic Interpretations.* USGS Biol. Sci. Rep. USGS/BRD/BSR-2000-0005).

	N Examined	N Deformed	% Deformed
Spring Peeper Pond	172	1	0.6%
Olde Minnow Pond	215	8	3.6%
Taylor-Ochs Pond	155	0	0%