placed in vials of 70% ethanol and deposited in the United States National Parasite Museum (USNPC), Beltsville, Maryland as *Megalodiscus microphagus* (93429–30), *Gyrinicola batrachiensis* (93431), *Neoechinorhynchus rutili* (93432); tadpoles were deposited in the herpetology collection of the Natural History Museum of Los Angeles County as LACM 155028–35. Prevalence of infection (number infected tadpoles/number tadpoles examined) x 100 and mean intensity of infection (mean number of infected individuals) ± 1 SD and range were: *M. microphagus* (33%, 17.6 ± 27.3 SD, 1–65); *G. batrachiensis* (53%, 9.3 ± 7.1 SD, 2–22); *N. rutili* (7%, 2).

Megalodiscus microphagus was described originally from *Bufo boreas* from northern California by Ingles (1936. Trans. Amer. Microsc. Soc. 55:73–92) and has been reported in *R. aurora* from Oregon (Macy 1960. J. Parasitol. 48:662) and British Columbia, Canada (Efford and Tsumura 1969. Amer. Midl. Nat. 82:197–203). Our record is the first report of *M. microphagus* in *R. aurora* from California.

Gyrinicola batrachiensis is known from a variety of anurans (bufonids, hylids, ranids) from eastern North America (Baker 1987. Mem. Univ. Newfoundland, Occas. Pap. Biol. 11:1–325). It apparently only occurs in tadpoles (Adamson 1981. Can. J. Zool. 59:1368–1376). *Rana aurora* represents a new host record for *G. batrachiensis*. California is a new locality record.

Neoechinorhynchus rutili has been reported from numerous fish species of the northern hemisphere (Van Cleave and Lynch 1950. Trans. Am. Microsc. Soc. 69:156–171). It is also known from *Rana esculenta* in Europe (Walton 1942. Contrib. Biol. Lab. Knox College 79:1–16) and *R. catesbeiana* from Canada (McAlpine and Burt 1998. Can. Field-Nat. 112:50–68). *Rana aurora* represents a new host record for *N. rutili*. California is a new locality record.

Tadpoles were collected under scientific collecting permit 803031-05 issued by the California Department of Fish and Game.

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RANA AURORA DRAYTONII (California Red-legged Frog). **MICROHABITAT**. Little has been reported on microhabitat use by California red-legged frogs (*Rana aurora draytonii*). Cook (1997. MS Thesis, Sonoma State Univ., 23 pp.) investigated the utilization of microhabitats within marshes. Use of upland and other non-aquatic habitats have been reported by others (USFWS 2003. Recovery Plan for the California Red-legged Frog; Rathbun et al. 1997. Herpetol. Rev. 38:85–86). Here I report the use of an atypical, non-aquatic microhabitat by *R. a. draytonii.*

Five annual surveys were conducted between 1998 and 2002 on 90 managed ponds in the upper Kellogg Creek Watershed, Contra Costa County, California. Ponds were surveyed throughout the year or until they dried during the summer months. During surveys conducted from 1998 to 2002, *R. a. draytonii* were observed utilizing all 90 ponds.

In September 2000, I walked across the bottom of a dry pond. The pond had been dry (no surface water) since the previous survey 4 weeks earlier. Pond bottom substrate consisted of a silt/clay mix that was completely dry, leaving deep (>50 cm) desiccation cracks. While walking across this pond bottom, a single adult *R. a. draytonii* was observed within a deep crack in the dry pond (Fig. 1). The frog was resting at the bottom of the crack facing skyward. Closer investigation revealed apparent soil moisture in the deepest reaches of the cracks. In October 2000, 7 adult and 22 subadult *R. a. draytonii* were observed using similar cracks in two other ponds. There was no apparent standing water, and the ponds were otherwise considered dry. During pond surveys throughout 2001 and 2002, five additional dry ponds were found in which frogs were utilizing cracks several weeks after all surface water was gone. Frogs were found deep (>30 cm) within desiccation cracks where soil moisture was still apparent.

Many authors have reported the ability of amphibians to obtain moisture from damp soil (e.g., Stebbins 1945. Copeia 1945:25–28). These *R. a. draytonii* might also be avoiding predation, direct solar exposure, and evaporative water loss by remaining below the surface. The utilization of this microhabitat might enable this species to remain in the area of the pond until more favorable conditions exist for movement (i.e., rain events, higher humidity).

Observations of *R. a. draytonii* using this type of microhabitat are significant for several reasons: this species is federally listed as threatened by the U. S. Fish and Wildlife Service; *R. a. draytonii* occurs in areas where its aquatic habitat is often ephemeral; and lands upon which the species occurs might be managed and its aquatic habitat might be altered through dredging.

In the course of conducting U.S. Fish and Wildlife protocol-level surveys, observers should not assume that a recently dried pond signifies the absence of this species from the site. The importance of documenting the presence of this frog is vital to understanding the range of the species and in promoting the recovery of *R. a. draytonii.* In some cases, searching the deep cracks of recently dried ponds might reveal the presence of this frog.

Stock ponds, where this species might occur, are often dredged to remove built-up silt loads (pers. obs.). Typically, dredging oc-

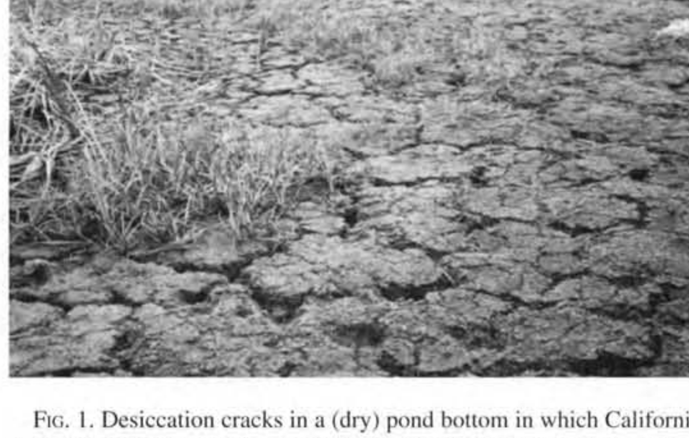

FIG. 1. Desiccation cracks in a (dry) pond bottom in which California red-legged frogs were observed utilizing as refugia in east Contra Costa County California.