

OCCURRENCE OF THE CALIFORNIA RED-LEGGED FROG (*RANA AURORA DRAYTONII*) IN NEVADA, USA

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Key words: California red-legged frog, *Rana aurora draytonii*, Columbia spotted frog, *Rana luteiventris*, *Rana pretiosa*, museum collections, distribution, identification.

The use of information gleaned from field notes and voucher specimens cataloged at museums can provide a defensible, rapid method for assessing population trends over suitable geographic scales (Reznick et al. 1994, Drost and Fellers 1996). However, validity of the results depends upon accuracy of historical accounts.

As part of an evaluation of the contracting distribution of the Columbia spotted frog (*Rana luteiventris*) in Nevada (Reaser 2000), I evaluated 57 historical voucher collections (1912–1973) with specimens identified as *Rana pretiosa* (= *R. luteiventris*) from Nevada. The similarity of native ranids of western North America has led to many misidentifications of other species in Nevada as *R. pretiosa* (Turner and Dumas 1972). Based on morphological examination, I found that “*Rana pretiosa*” vouchers collected from 11 surveys, representing at least 5 independent sites in Nevada, were in fact the species *Rana aurora*, the red-legged frog (Table 1).

Distinction between the 2 species was made on the basis of morphological characteristics (e.g., length to heel of leg, extent of webbing, position of eyes, skin texture, and banding on the legs; Wright and Wright 1949, Stebbins 1962, Dickerson 1969). Lindsdale (1938) reported that California red-legged frogs (*Rana aurora draytonii*) were brought to Nevada by former California residents in the 1930s for “frog farming.” The ranchers probably intended to provide frog legs to the supply-craved markets of San Francisco (see discussion by Jennings and Hayes 1985). Green (1985) used electrophoretic techniques to investigate the identity of frogs collected in Duckwater,

Nevada, and concluded that they are probably of the subspecies *R. a. draytonii*. This suggests that all reclassified specimens are, more specifically, *R. a. draytonii*.

Although I did not detect the presence of *R. a. draytonii* in 409 surveys conducted throughout central and northern Nevada from 1993 to 1996, the species is reported to persist on private ranches in the Great Smoky Valley, Nye County (J. Ramos personal communication), and has been observed at Green Springs in White Pine County (P. Hovingh, unpublished records, 1991) and Duckwater (Green 1985).

Misidentification of *R. a. draytonii* as the spotted frog probably confounded results of at least 1 study. Turner (1962) undertook pigment extraction studies to assess whether ventral color patterns are actually related to a taxonomic difference (Thompson 1913) or merely vary greatly over the range of *R. pretiosa* (see also Turner 1959). Some vouchers I reclassified at UMMZ were from collection sites Turner used for his analysis. Furthermore, Turner deposited frog skins from his study at UMMZ, and I found that those from the same sites as reclassified vouchers had the texture and markings of the red-legged rather than the spotted frog. Therefore, it is probable that a subsample of the specimens Turner analyzed were California red-legged frogs.

Whereas my research (Reaser 1997) indicates that *R. luteiventris* has declined significantly in Nevada, the findings relevant to the pattern of range contraction and landscape variable correlates would have been considerably confounded had information pertinent to the *R. a. draytonii* samples been erroneously included in the analyses.

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TABLE 1. *Rana aurora draytonii* specimens originally identified as *R. pretiosa* (= *R. luteiventris*).

Year	Collector	Locality	Voucher identification
1938	Hubbs	Millet Ranch, Nye Co.	UMMZ ^a 84829
1938	Hubbs	McLeod Ranch, Nye Co.	UMMZ 84833
1941	Alcorn	Millet Ranch, Nye Co.	MVZ ^b 37075-80
1959	Owyeer	Wild Horse, Elko Co.	BYU ^c 32284
1960	Turner	Taylor Canyon, Elko Co.	LACM ^d 8510, UMMZ 176686-92
1966	Kay	Duckwater Spring, Nye Co.	UNLV ^e A-485
1967	Kay	Duckwater Spring, Nye Co.	UNLV A-486, A-500, A-506
1974	Zoology class	Duckwater, Nye Co.	UNLV "A"–"F"

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Because of global concerns over amphibian declines, comparisons of contemporary and historical population status are likely to increase in occurrence and utility. The accuracy of these analyses should be judged, at least in part, on the researcher's ability to verify historical accounts. Furthermore, deposition and effective curation of voucher specimens from contemporary studies will be necessary for verification by those monitoring amphibian population status in the future.

I thank curators at the many museums that permitted me access to records and specimens. I am especially grateful to my field assistants for their enthusiasm, dedication, and ongoing friendships (see Reaser 2000 for specific names). Studies of *R. luteiventris* in Nevada have been financially supported by the Nevada Biodiversity Initiative, Stanford University Department of Biological Sciences, Morrison Institute for Population and Resource Studies, United States Fish and Wildlife Service, National Fish and Wildlife Foundation, Nevada Mining Association, the Declining Amphibian Population Task Force, Theodore Roosevelt Memorial Fund of the American Museum of Natural History, and the United States Forest Service. Charles Painter, Richard Siegel, and David Green provided thoughtful input toward improving the manuscript.

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Received 28 February 2001

Accepted 13 March 2002