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Research Note

New Distributional Records for *Rana bedriagae caralitana* in Anatolia

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Abstract: We conducted a herpetofaunal survey on the southern part of the Lake District in Anatolia searching and documenting new sites for herptile species. During the two years of our study three new sites, Gencek Lake (Derebucak/Konya), Derebucak (Konya) and Tınaztepe (Seydişehir/Konya), were recorded for *Rana bedriagae caralitana*. Of these, the two southernmost records extend the distribution of these subspecies in the Lake District of Anatolia.

Key Words: Rana bedriagae, *Rana bedriagae caralitana*, Lake District (Anatolia), Distribution

Rana bedriagae caralitana Alttürünün Yeni Dağılış Kayıtları

Özet: Anadolu Göller Bölgesi'nin güney kısmında herptil türlerini araştırmak ve tespit etmek amacıyla, herpetofaunistik çalışma yaptık. İki yıl süren çalışmamızda *Rana bedriagae caralitana* alttürüne ait üç yeni lokalite; Gencek Lake (Derebucak/Konya), Derebucak (Konya) ve Tınaztepe (Seydişehir/Konya) tespit edilmiştir. Bu lokalitelerden iki tanesi Göller Bölgesi'nde altürün dağılış alanın güneydeki en uç iki noktasını oluşturmaktadır.

Anahtar Sözcükler: Rana bedriagae, *Rana bedriagae caralitana*, Göller Bölgesi (Anadolu), Yayılış

Introduction

Water frogs are widely distributed in Turkey and are generally classified as *Rana ridibunda Pallas* 1771 (1,2). Large specimens having orange colored venters from Beysehir Lake were first recorded by Bodenheimer (1), and then established as a different subspecies, *R. r. caralitana*, by Arıkan (3). Beerli et al. (4) disagrees with the new naming of this population, and claimed that *Rana ridibunda caralitana* and the Levantine frog *Rana levantina* should be regarded as synonyms of *Rana bedriagae*. Although the taxonomic classification of this form is not well accepted (5,6), the extent of their distribution is reported by numerous morphological and herpetofaunal studies (7-10).

In this paper we evaluated the external features of all the frogs and presented new distribution sites extending the limits of the caralitana form in addition to previously known localities.

Materials and Methods

Our survey took place between June 1 and 6 2000 and May 19 and 25 2001. Material was collected from four localities (Figure); 1-Tınaztepe (Seydişehir/Konya), 2-Gencek Lake (Derebucak/Konya), and 3-Derebucak (Konya), and 4-Üzümdere (İbradı/Antalya), and deposited in the Zoology Department of Ege University (ZDEU) (Table). All the collected samples were verified by Hüseyin Arıkan after identified by us.

Results and Discussion

Tınaztepe population

The water frogs of Tınaztepe (Figure) ranged in size (SVL) from 72.7 to 95.3 (mean: mm 82.1, SD: 8.09). The ground coloration of the dorsum of these frogs contained different tones of green or greenish brown with varied colored spots. Coloration of the venter

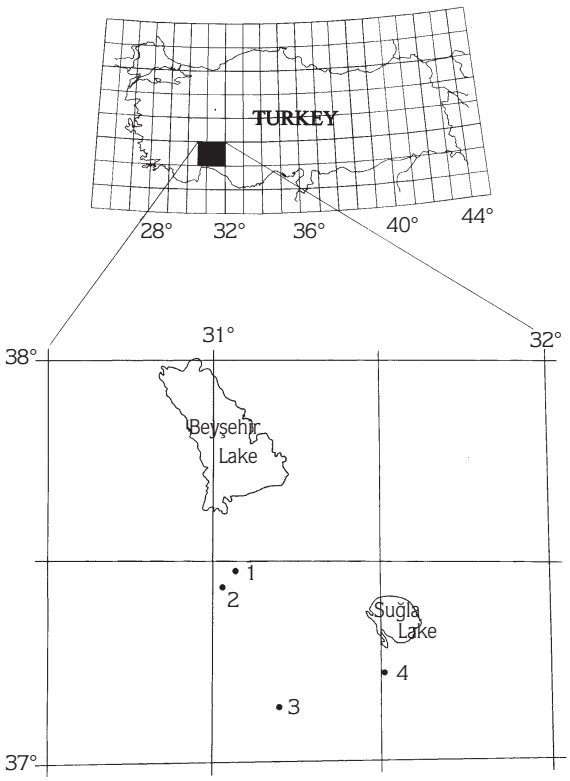

Figure. Material collecting localities; 1-Gencek Lake, 2-Derebucak, 3-Üzümdere, 4-Tınaztepe.

Table. Specimens used in this study.

Material		Locality	Collecting Date
ZDEU 4/2000 1-9	(6♀♀,3♂♂) 1-6 (Juv)	Tınaztepe	27/06/2000
ZDEU 168/2001 1-4	(1♀♀, 3♂♂)	Gencek Lake	21/05/2001
ZDEU 169/2001 1-2	(2♂♂)	Derebucak	21/05/2001
ZDEU 170 /2001 1-4	(2♀♀, 2♂♂)	Üzümdere	21/05/2001

including the extremities and the head was dirty white or yellowish-white covered with orange maculations. The shape of these maculations were vermiculate in five frogs (55.5%). Three male frogs had both vermiculate maculation and smaller spots (33.3%). The venter of only one male frog was immaculate.

The venters of the six juveniles (approximately 30-40 mm in size) of this site were all white. Finding the white ventered juveniles surprised us because all of the mature frogs from the same site bore the typical *caralitana* characteristic. Kaya (11) found that the juveniles of the tree frogs *Hyla arborea* and *Hyla savignyi* possessed similar morphological characteristics as the adults. The coloration of the venter of Tınaztepe water frog population may be interpreted as an age or habitat variation.

We did not transport the mentioned juveniles from this site to our museum (ZDEU) because we wanted to visit the same site and reinvestigate when they get bigger. Unfortunately we were not well equipped with marking materials (antibiotics and local anesthetizers) and so these samples could not be marked.

Gencek Lake population

The water frogs of Gencek Lake (Figure) ranged in size (SVL) from 50.0 to 97.6 mm (mean: 70.1, SD: 23.9). The ground coloration of the dorsum of these frogs was different tones of greenish brown or green with varied colored spots. The coloration of the venter including the extremities and the head was dirty white covered with orange maculations. The shape of these maculations was whole vermiculate in one male and one female frog (50%). The remaining two male frogs had both a vermiculate maculation and small spots (50%).

Derebucak Population

We observed two male water frogs from Derebucak (Figure), and sized them at 72.22 and 96.54 mm. The ground coloration of the dorsum of these frogs was different tones of dark greenish brown with varied colored spots around the vertebral stripe. Coloration of the venter including the extermities and the head was dirty white covered with orange maculations. The shape of these maculations was whole vermiculate in one male. The other male frog had both vermiculate maculation and small spots.

Üzümdere population

The water frogs of Üzümdere (Figure) ranged in size (SVL) from 64.32 to 84.08 mm (mean:72.6, SD:8.22). The ground coloration of the dorsum of these frogs was different tones of greenish light brown or green with varied colored spots. The coloration of the venter including the extremities and the head was dirty white without any maculation or spots (immaculate or no spots). In the light of recent studies (4,7,10,12-14), our morphological findings showed that these samples belong

to *Rana bedriagae*. These four frogs were caught from the upper reaches of the Manavgat River, which flows into the Mediterranean Sea.

Conclusion

In addition to the type locality (Beyşehir) the previously known distribution sites of *R. b. caralitana* were Eğirdir Lake (8), Suğla Lake, Çarşamba Suyu Creek (and its tributaries)(7), Gölcük Lake (Isparta), Hotamış Lake (8), İvriz (Ereğli- Konya) (15), Işıklı Lake (Çivril-Denizli) and Çardak (Denizli) (9). All of the characters of the investigated three sites, Tınaztepe, Gencek and Derebucak, are quite identical with the population of Beyşehir and therefore could be accepted as *Rana bedriagae caralitana*. Of these two the southernmost records, Derebucak and Tınaztepe, extend the distribution of this subspecies in the Lake District of Anatolia. However, the white ventered juveniles of Tınaztepe remain undetermined, and show that *R. b. caralitana* juveniles need more research attention.

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