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On Specimens of *Rana ridibunda* PALLAS, 1771 (Anura: Ranidae) Collected from Işıklı Lake (Çivril-Denizli)

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Abstract: In this survey, 17 adult (3 ♂♂, 14 ♀♀) *Rana ridibunda* specimens were investigated morphologically. The morphological characteristics of the Işıklı Lake specimens are in accordance with those given for *R. r. caralitana* (1). Furthermore, the distribution range of *R. r. caralitana* has now been extended.

Key Words: *Rana ridibunda caralitana*, morphology, distribution.

Işıklı Gölünden Toplanan *Rana ridibunda* PALLAS, 1771 (Anura: Ranidae) Örnekleri Hakkında

Özet: Bu çalışmada, 17 adult (3 ♂♂, 14 ♀♀) ergin *Rana ridibunda* örneği morfolojik olarak incelenmiştir. Işıklı Gölü örneklerinin morfolojik karakterleri *R. r. caralitana* (1) için verilenlerle uyum içindedir. Ayrıca *R. r. caralitana*'nın dağılışı genişletilmiştir.

Anahtar Sözcükler: *R. r. caralitana*, morfoloji, dağılışı

Introduction

Rana ridibunda was described for the first time from Guryev in Kazakhstan [Terra typica restricta-(2)] by Pallas in 1771. According to Günther (3, 4, cited by 5), this taxon has a wide area of distribution, extending eastward from the Dutch/German North Sea coast to Asia, and southward as far as the Nile delta, even including parts of the Arabian Peninsula. *Rana ridibunda* was represented as two subspecies (*R. r. ridibunda*, *R. r. perezi*) up to 1974. After the acceptance of the subspecies *perezi* as a separate species (*Rana perezi*) (6), it became a monotypical species.

Recently, lake frogs in Greece, formerly classified as *R. ridibunda*, have been reclassified as the tree species *R. ridibunda*, *R. epeirotica* and *R. balcanica* (7, 8).

Rana ridibunda is also widespread in Turkey. According to Bodenheimer (9) and Başoğlu-Özeti (10), it is a homogenous species in Turkey. However, although Bodenheimer (9) recorded specimens which had orange-coloured venters from Beyşehir Lake, these were accepted as belonging to the nominate subspecies without a detailed investigation. Later, Arıkan (1) found significant differences, especially in the pattern and coloration of the

venters of the Beyşehir Lake specimens, and described the population as a new subspecies (*R. r. caralitana*).

In the present study, specimens collected from Işıklı Lake were evaluated biometrically and in terms of their pattern and coloration characteristics.

Material and Method

ZDEU 6/1998. 1-17, 3 ♂♂, 14 ♀♀, Işıklı Lake (Çivril-Denizli), 14.09.1998, Leg. Ayaz & İlhan.

The specimens examined in this study were made up of a total of 17 specimens (3 ♂♂, 14 ♀♀) and are deposited in ZDEU (Zoology Department, Ege University). The pattern and coloration features of the specimens were recorded while the animals were alive. They were then killed by ether within a sealed container. Next, a fixation fluid containing 3 cc 40 % formaldehyde, and 97 cc 70 % ethanol was injected into the abdominal cavity of each animal. They were then put into 70 % ethanol for permanent preservation. For morphological measurements of the specimens, a dial caliper of 0.02 mm sensitivity was used.

Results and Discussion

The specimens used in this study were sexually mature individuals. The male and female specimens in this study were examined together as there was no disparity between them in terms of morphometric characters. The morphometric measurements and some ratios derived from these measurements are given in Table 1.

In all the specimens examined, the ground coloration of the dorsal was various hues of green and brown. The ground coloration of the whole ventral, including the extremities and the head, was dirty white, and it was more or less covered with orange maculations.

The pattern types of the specimens of *Rana ridibunda* from Işıklı Lake are given in Table 2 and Figure 1 (Dorsal A, B), and Figure 2 (Ventral A, B).

Subsequent studies (11, 12, 13) have extended the distribution are of *R. r. caralitana*. According to the morphological features, especially from the viewpoint of the pattern and coloration characteristics of their ventral, our specimens from Işıklı Lake are almost identical with *R. r. caralitana* (1, 11, 12, 13).

As a result, the present known distribution range of this subspecies has been extended westwards to include Işıklı Lake in addition to the known range of Lake Beyşehir (its terra typica), Ivriz, Ereğli, Lakes Eğirdir, Suğla, Gölcük (Isparta), and Hotamış.

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Characters	Ext.	M	SD	SE
Snout-Vent Length	55.79-100.70	74.97	14.66	3.55
Tibia Length	24.36-44.56	35.05	6.78	1.64
Head Length	19.78-32.13	25.85	4.36	1.06
Head Width	20.75-35.70	27.90	5.37	1.30
First Toe Length	8.540-16.570	11.879	2.328	0.565
Metatarsal Tubercle Length	2.820-4.620	3.726	0.573	0.139
Snout-Vent Length/Tibia Length	2.030-2.290	2.141	0.080	0.019
Snout-Vent Length/Head Width	2.560-2.820	2.688	0.076	0.019
Snout-Vent Length/First Toe Length	5.900-6.900	6.315	0.262	0.063
Snout-Vent Length/Metatarsal Tubercle Length	16.800-26.360	21.121	2.406	0.583
Head Length/Head Width	0.870-0.990	0.932	0.031	0.008
Tibia Length/Metatarsal Tubercle Length	7.560-11.670	9.405	1.116	0.271
First Toe Length/Metatarsal Tubercle Length	2.500-4.340	3.195	0.443	0.107

Table 1. Some morphometrical values (in millimeters) and derived ratios of the investigated 17 specimens from Işıklı Lake (Çivril-Denizli). Ext: Extreme Values; M: Mean; SD: Standard Deviation; SE: Standard Error of the mean.

Dorsal with a vertebral stripe (A)	Dorsal without a vertebral stripe (B)
n : 7 (41,18 %)	n : 10 (58,82 %)
Ventral maculation in the shape of vermiculate (A)	Ventral maculation with small in pots (B)
n : 15 (88,24 %)	n : 2 (11,76 %)

Table 2. Dorsal (A, B) and ventral (A, B) pattern types of *Rana ridibunda* specimens from Işıklı Lake (Çivril-Denizli). n: Specimen number.

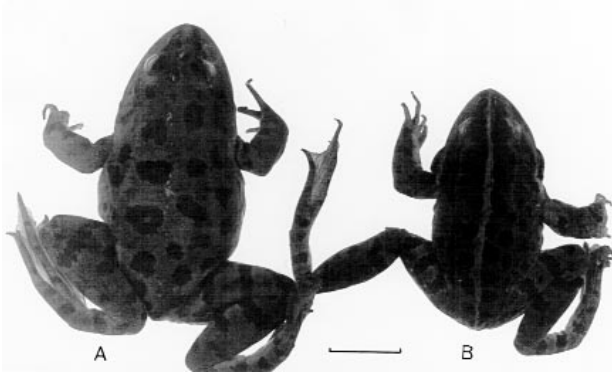


Figure 1. Dorsal (A, B) pattern types of the specimens of *Rana ridibunda* from Işıklı Lake (Çivril-Denizli) (Horizontal bar 20 millimeters).

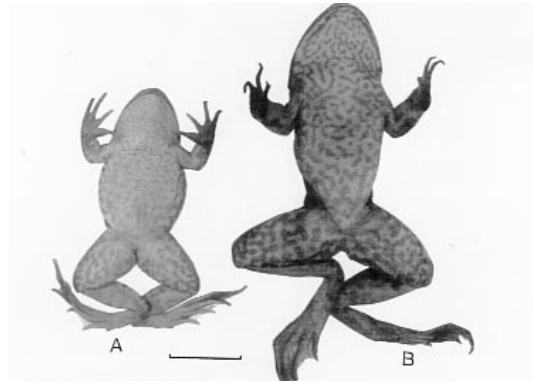


Figure 2. Ventral (A, B) pattern types of the specimens of *Rana ridibunda* from Işıklı Lake (Çivril-Denizli) (Horizontal bar 20 millimeters).

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