



RESEARCH ARTICLE

Checklist of True frogs (Family Ranidae) District Matiari Sindh, Pakistan

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Abstract

In order to record different True frogs in District Matiari Sindh, various field surveys were carried out from March 2011 through November 2012 at twenty three specific sites of amphibian habitats. In this context, total 850 Ranid specimens were collected, examined morphologically, identified by help of Taxonomic literature and determined as two species of Family Ranidae viz: *Euphlyctis cyanophlyctis* of Genus *Euphlyctis* and *Hoplobatrachus tigerinus* of Genus *Hoplobatrachus*. Family Ranidae is recorded for the first time from District Matiari, Sindh Pakistan.

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Introduction

Ranidae is the richest family of Order Anura under Class Amphibia, including 750 true frog species contained in 61 Genera (Anderson et al, 2008).

The pioneer work on the systematic of true frogs in Pakistan's some specific areas is previously done by Muhammad Sharif khan 1997, 2002, 2004, 2006 and 2008, but District Matiari remained unexplored before present study.

This study mentions taxonomic arrangement of recorded true frog species for basic understanding about the components of biodiversity which is necessary for effective decision-making about classification of a species.

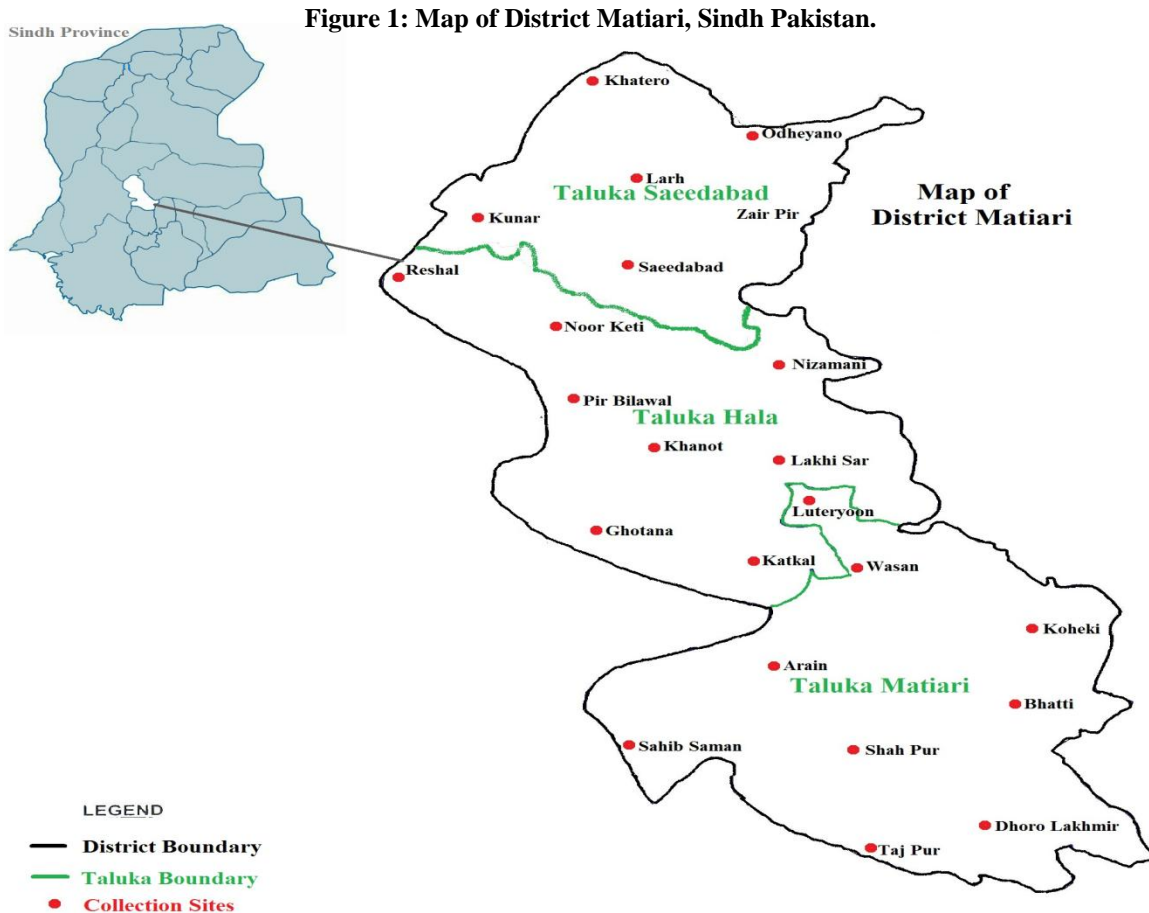
Family Ranidae has great importance among other amphibian species as Some Ranid frogs are exploited as food, both for local consumption and commercially for export in some countries of world. Like other amphibians, Ranids are economically useful in reducing the number of insects that transmit diseases or destroy crops (Staurt, et al. 2004).

Skin of some Ranids has also been evaluated for wound healing efficiency. The lipid components of skin in specific Ranid species are determined to have pharmaceutical and therapeutic potential which is significant in wound healing (Sai, et al. 1995).

Material and Methods**Study area**

Matiari was selected for the present study because of being unexplored previously. District Matiari is located in Sindh Province of Pakistan covering geographical area of 7, 50,000 acres by 25°36'00"North (Latitude) and 68°26'24"East (Longitude). Of which 70,000 Acres of land is used for cultivation of cotton, sugarcane, wheat and other crops like onion. District Matiari is divided into three Talukas viz: Saeedabad, Hala and Matiari. Six Sites of Taluka Saeedabad were studied for the search of Family Ranidae; however eight sites of Taluka Hala and nine site areas of Taluka Matiari were explored for the collection of Ranid frogs (Fig. 1).

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Collection and preservation

The survey for true frog species was carried out from March 2011 through November 2012 from twenty three collection sites of district Matiari. The different species of Family Ranidae were preserved in formalin solution containing 10 % formaldehyde and 90 % water with addition of few drops of glycerin. All the specimens were stored in separate jars while extra specimens of a species already preserved were released alive in fields. The specimens were housed in Research laboratory of vertebrate biology Section, Department of zoology, University of Sindh Jamshoro.

Identification

Identification of specimens was done on the basis of morphometrics, identification key and catalogues mainly of Khan, 2008, 2006, 2004, 2002 and 1987. Other relevant literature including Nauwelaerts *et al.*, 2004; Das and Dutta, 1998; Dubois and Ohler, 1995;

Khan and Mufti, 1995; Ford and Cannatella, 1993; Khan, Ahmed, 1987; Balletto *et al.*, 1985; Minton, 1966 and Boulenger, 1890 also contributed in identification of Family Ranidae.

Results and discussion:

The present effort resulted in the collection of a total 850 true frog specimens. Out of which 434 male and 320 female specimens were determined to belong with Family Ranidae while some immature and juvenile specimens that numbered 96 could not be identified up to species level were excluded. Altogether 754 adult male and female specimens were identified as two different Ranid species.

The research on amphibian fauna was previously done mainly in Punjab and Balochistan by researcher already mentioned in the introduction that reported existence of family Ranidae representing ten species including *Hoplobatrachus tigerinus*, *Euphlyctis cyanophlyctis cyanophlyctis*, *Euphlyctis cyanophlyctis seistanica*, *Euphlyctis cyanophlyctis microspinulata*, *Fejervarya limnocharis*, *Fejervarya*

syhadrensis, *Paa hazarensis*, *Paa sternosignata*, *Paa vicina* and *Sphaeroteca breviceps*.

In comparison to other areas of Pakistan reported by other researcher (described above), present investigation showed occurrence of only two species of Family Ranidae in district Matiari viz: *Euphlyctis cyanophlyctis* (Fig. 2) and *Hoplobatrachus tigerinus* (Fig. 3). The details of the Ranid species recorded for present study (identification Key by Khan, 2008) are given below:

Kingdom Animalia: Linnaeus, 1758.

Phylum chordata: Haeckel, 1874

Sub Phylum vertebrata: Cuvier, 1812

Class amphibia: Gray, 1825

Order Anura: Merrem, 1820

Family Ranidae: Rafinesque, 1814

1. Genus *Euphlyctis*: Fitzinger, 1843

Species *Euphlyctis cyanophlyctis*: Schneider, 1799

Euphlyctis cyanophlyctis is commonly known as Skittering frog. It ranges throughout South Asia including Afghanistan and Sri Lanka (Frost et al, 2006; Boulenger, 1890) Arabia and Thailand and in southeastern Iran as well (San Mauro et al, 2005; Balletto et al, 1985; Minton, 1966). This true frog species is found in water pools, marshes and various other wetlands within a variety of habitat types of India (Suresh and Katti, 2002).

2. Genus *Hoplobatrachus*: Peters, 1863

Species *Hoplobatrachus tigerinus*: Daudin, 1802

Hoplobatrachus tigerinus is another Ranid species discovered is known as Bullfrog. It is found throughout the wetland areas of Bangladesh, India and much of northern Pakistan, some parts of Nepal, and Myanmar (Das and Dutta 1998) Maldives, Madagascar and Nepal (Dubois and Ohler, 1995). This species has been reported from Bhutan and Afghanistan also (Ford and Cannatella, 1993) but this report needs to be confirmed. *Hoplobatrachus tigerinus* in Sri Lanka is now believed to belong with a separate taxon and has not been included in this account.

Only two Ranid species (Fig. 2-3) were recorded to be scattered equally in three Talukas of District Matiari (Fig. 1).

Figure 2: *Euphlyctis cyanophlyctis* recorded from District Matiari

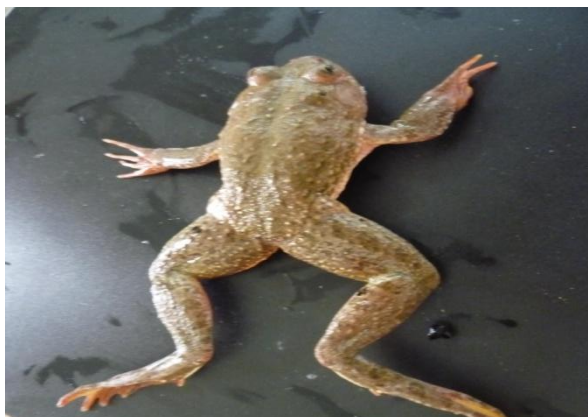


Figure 3: *Hoplobatrachus tigerinus* recorded from District Matiari



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