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Study of *Rana liebigii* from Kalatop-Khajjiar Lake, Chamba, Himachal Pradesh, India

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Abstract: A specimen of *Rana liebigii* was reported from the Khajjiar lake (Mini Switzerland) area of Khajjiar-Kalatop Wild life Sanctuary in district Chamba of Himachal Pradesh during the study of area from July, 2008 to November 2011.

Key words: Khajjiar Lake · *Rana liebigii* · Species · New Record

INTRODUCTION

Amphibians are the least in number amongst the vertebrates and comprise nearly 6.6% of the total life on the earth [1]. Total number of species in the world has been estimated around 3140 and in India 214 species are known, while in Himachal Pradesh only 17 species belonging to 4 families has been recorded [2]. This is 7.8 % of the total Indian species. Amphibians are ecological indicators and in recent decades there has been a dramatic decline in amphibian population. Many species are now threatened or extinct. Many workers have done important contributions to amphibian research in India [3-7].

India has the third largest amphibian population in Asia. The amphibian fauna of India comprises of 214 species of which 167 (66.3%) are endemic to the country. But many species are still being recorded for first time from many places of the country. Nine new species of frogs of the genus *Raorchestes* are described from the hill ranges of southern Western Ghats. [8]. A ground-dwelling rhacophorid frog was reported from the highest mountain peak of the Western Ghats of India [9]. A rare species of *Fejervarya cancrivora* (Amphibia: Ranidae) was reported for the first time in Pondicherry mangroves, southeastcoast of India [10].

Rana liebigii belongs to family Ranidae, of class Amphibia. This family belongs to order Anura which contail tailless and limbless animals. It is widely distributed throughout the Himalayas, between 4000 and 10,000 feet. Some authors consider *Rana liebigii* a similar species to *Rana vicina*. This species has been reported from many places in Himachal Pradesh but there is no record from the present study area i.e. Khajjiar Lake. So it is a new record from this area which under immense pressure of human intervention.

Methodology: Study area was visited from 2008 to 2011at least once a month. A single specimen was found around Khajjiar lake in the month of July, 2011. Identification was done on the basis of these photographs. Further identification was authenticated from High Altitude Regional Centre, Zoological Survey of India, Saproon, Solan, Himachal Pradesh-173211.

Khajjiar Lake "The Mini Switzerland of Himachal Pradesh" is present in the western part of Chamba district of Himachal Pradesh. Khajjiar Lake has a clump of reeds and grasses exaggeratedly called an island in it (Fig. 1). This glade is greenish in its turf and contains in its centre a small lake having approximate area of 5000 sq. yards. Khajjiar Lake lies 32° 26′ north and 76° 32′east about 6300 feet (1920 meters) above sea level between Chamba and Dalhousie. Khajjiar Lake is situated in the centre of Khajjiar- Kalatop wild life sanctuary (Fig. 2). This small sanctuary lies in the catchments of the Ravi River, located in western part of Chamba District. It is one of the oldest preserved forests of state (notified on 01.07.1949. The climate of Khajjiar alpine summers (April-June) is mild and winters (November-February) are cold and bitter. It experiences south-western monsoon rains in July-September [11].

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Fig. 1: Khajjiar lake

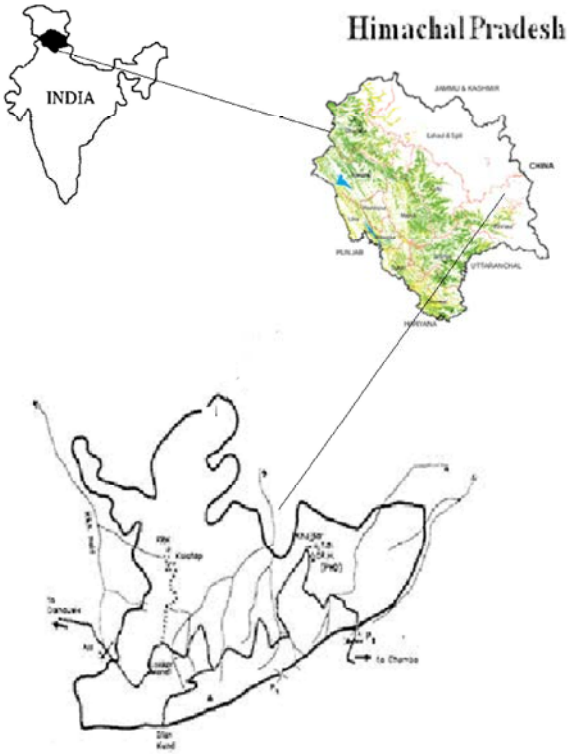

Fig. 2: Kalatop Khajjiar Wildlife Sanctuary

RESULTS AND DISCUSSION

Systematic Part:

Kingdom: Animalia, Linnaeus, 1758

Phylum: Chordata, Bateson, 1885

Fig. 3: *Rana liebigii* Gunther, 1830.

Class: Amphibia, Linnaeus, 1758.

Order: Anura, merren, 1820.

Family: Ranidae, Rafinesque, 1814

Genus Rana, Linniaus, 1700.
Rana liebigii Gunther, 1830.
1830. *Rana liebigii*, Gunth. *P. Z.S.* p. 157.
1830. *Rana liebigii* Bouleng. *Cat. Batr. Sal*. p. 21.

Diagnostic Character: Head of this Rana is moderate and much depressed. Snout is very short and rounded (Fig. 3). Inter orbital space nearly as broad as the upper eyelid and tympanum is small and hidden. Canthus rostralis are indistinct. Fingers are moderate, first finger not extending beyond second. Toes are also moderate, truncated or slightly swollen at the end. Toes are entirely webbed and don't have any tarsal fold. Nuptial excrescences of this species are developed; inner metatarsal tubercle oval, not very prominent; no outer tubercle is present. The tibio-tarsal articulation reaches the tip of the snout. On dorsal side skin is smooth. Colour is Brown above and a black line on the canthus rostralis and on the temporal region. Lateral folds black-margined, legs indistinctly cross-barred. Male are with internal vocal sacs. During the breeding season remarkable on account of the extreme thickness of the arms and of the patches of spinose warts on the breast, the inner side of the arms, and the inner fingers.

Status and Distribution: found in Sikkim, and in states of western Himalayas.

Habit and Habitat: Lives in a damp climate in the Western Himalayas, it is not so essentially aquatic in its habits but is found in damp jungle.

Rana liebigii is widely distributed species and is not an endanged species and is least concerned according to conservation policies. Still only one specimen was found from the present study area. This area is under the pressure of immense human intervention especially tourism industry. So in spite of being under Wild life sanctuary the ecological equilibrium is disturbed of this area [12]. This may possess a threat to this animal in this particular area.

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