For the effective conservation of the threatened frog species detailed information is needed on the basic ecology and natural history of many species. An accurate assessment of the problem in association with the precise distribution, status of the species and comparison of the habitat with and without that species is needed. The problems associated with conservation are on the other hand related to the magnitude of threat. Among amphibians, the endemic forms are highly susceptible to threats.

In the present study, local distribution of an endemic and threatened species of frog has been studied and information on the relationship between the habitat variables (including physico-chemical and other) and population of the species have been analysed. Based on these observations, a few suggestions are proposed as a part of the conservation measure that can be taken up by suitable authorities. However, in this study, a detailed autecological information viz., predation, prey, food habits, niche, reproductive biology and tadpole population response to ecological factors were not taken-up; the measures proposed below could be mixed up with other conservation measures for the effectiveness.

**Observations that can be used to propose conservation measures**-

1. The *Nyctibatrachus aliciae* lives in core-forest streams and it has a narrow distribution and specific requirement of microhabitat.
2. The habitat quality depletion and fragmentation of forest habitat has made a severe effect on the distribution of the species
3. Some physico-chemical parameters of the habitat has a strong and determining role on the distribution of the species.
4. Among these, the canopy cover of the habitat, air, water soil and litter temperatures and illuminosity are the important ones. These parameters have interrelationship among themselves and therefore damage to
canopy could lead to a chain of adverse reactions on the habitat of the species.

5. In addition to these, the organic mulch in the habitat forms the hiding place, regulates the water temperature and in-turn, the quantum of the mulch is determined by the thickness of the canopy (from earlier study on habitat requirement of *N. major*—a co-existing frog with *N. aliciae*: Krishnamurthy, 1996a). Thus it appears that habitat parameters play a key role in distribution of this species.

6. Further, this frog co-exists with other sensitive amphibian species.

Considering all the above, the following conservation measures are proposed for this species—

1. Habitat restoration and protection should be made as an important conservation tool in the areas where habitat of this frog is threatened.

2. While restoring and protecting the habitat, specific ranges of characters required by the species are given importance.

3. Collection of the organic mulch from the stream bed, litter and topsoil of the forest on the slope of the stream, which are the common practice of collecting the natural manure for agriculture in the studied area are to be checked and minimized.

4. Man-made activities on the periphery of the forest, which include pruning forest vegetation, litter gathering and other activity that cause siltation in streams and indirectly hampers the microhabitat of frog is to be limited.

5. In the studied area, small forest streams near the agriculture fields are diverted for irrigating the crops. This drains the water from the natural course of streams and may affect the distribution of the species. Therefore, while diverting water courses attention should be given to maintain the minimum flow of water in the original streams.

Since this frog co-exists with other sensitive species, a conservation measure adapted for this species also helps to conserve other species.