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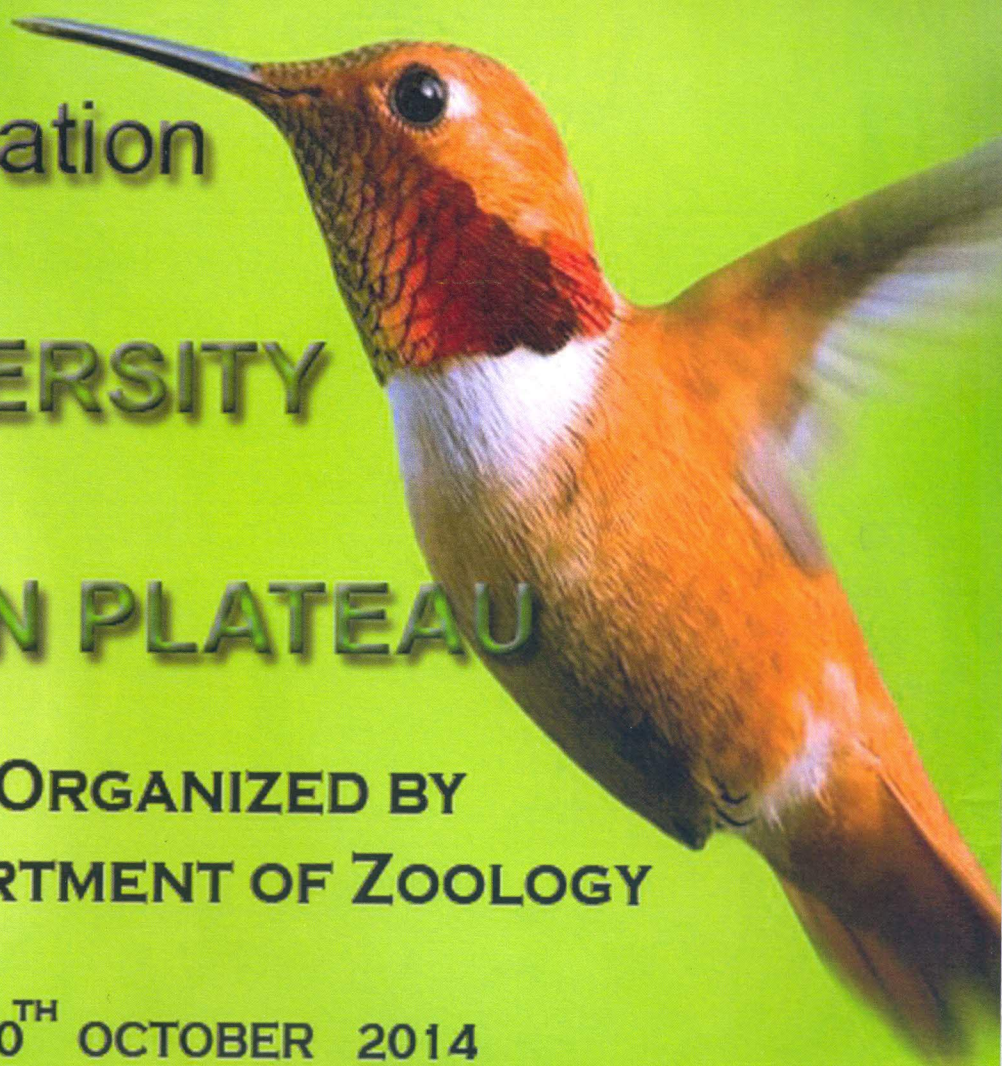
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Pilot survey to record Anuran diversity in and around of Taralu, Bengaluru Region

Alexander R¹, Avinash K¹ and Jayashankar M^{2*}

¹ A Rocha India, Taralu Field Study Centre, #257, Taralu Estate, Taralu Post, Uttarahalli, Bengaluru South, Bengaluru- 560082

² Division of Entomology and Nematology, Indian Institute of Horticultural Research, Bengaluru – 560 089 and Research Advisor A Rocha India

*jay81zoology@gmail.com

ABSTRACT

The present study was undertaken in and around Taralu village adjoining the Bannerghatta National Park, Bengaluru. Random sampling and visual encounter method were adopted across the study area. A total of seven species of anurans were identified during the present observations viz., *Polypedates maculatus*, *Microhyla ornata*; *Kaoula taprobanica*; *Duttaphrynus smelanosticus*; *Fejervarya* sp 1; *Fejervarya* sp 2.

Key Words: Taralu, Bannerghatta, anurans, anthropogenic.

INTRODUCTION

Amphibians play an important role in the ecosystem as secondary consumers in food chains, biomonitors predating insect pests and as ecological indicators owing to their high degree of sensitivity to changes in the environment (Lips, 1998; Daniels, 2003). According to the Amphibia web globally there are 7307 species of amphibians, of which anurans contribute the most species richness (6442), followed by Caudata (665) and Gymnophiona (200) (amphibiaweb.org). In recent times there has been an increased consciousness for biodiversity census and monitoring new species and rediscoveries (Bossuyt *et al.* 2004; Kohler *et al.* 2005; Voris 2006). A lot of information has been accumulated in the field of biodiversity and conservation of amphibians from different regions of India (Daniels, 2001, 2003; Biju, 2001; Dahanukar & Padhye, 2005; Gururaja *et al.* 2007; Dinesh *et al.* 2008; Kamie *et al.* 2012; 2013). As a result of scientific efforts India has recorded 342 amphibian species which include 1 salamander, 35 caecilians and 306 species of anurans (Dinesh *et al.* 2013).

The global decline in the amphibian populations in recent years is alarming and is a matter of great concern for biologists (Houlahan *et al.* 2000; Daniels, 2003). Anurans are dependent on environmental quality (Marco, 1993; Duellman & Trueb 1994) and are also strongly influenced by abiotic factors, such as rainfall, temperature, and vegetation (Gascon, 1991; Eterovick, 2003; Parris, 2004; Werner *et al.* 2007). Forest ecosystems adjoining urban areas are prone to an array of issues causing population decline viz., habitat destruction (Blaustein & Kiesecker, 2002), pollution (Hecnar & M'Closkey, 1996) and road mortality (Beebee, 1997; Forman & Alexander, 1998; Hels & Buchwald, 2001). The present study was undertaken in and around Taralu village adjoining the Bannerghatta National Park, Bengaluru.

MATERIAL AND METHODS

Taralu (10° 17'-10° 19' N; 76° 39'-76° 44' E), Bengaluru South taluk, Bengaluru Urban District was selected as it has many perennial and seasonal water bodies, also dense foliage owing to its proximity to the Bannerghatta National Park. The survey was carried out on ten random days during March to May 2014 in the early morning (0630 to 0900 hrs IST) and late evening (1900 to 2200 hrs IST) of the day. Random sampling and visual encounter method were adopted across water filled and dried water bodies, agri-horticultural ecosystems including coconut plantation, sapota orchard, leaf litter, areca plantations and mango orchard. Anurans encountered were photographed using Canon power shot SX40 and assistance for taxonomical identification was sought from Dr.K.P.Dinesh, IISc, Bengaluru.

RESULTS AND DISCUSSION

In this first time survey from the study area a total of seven species were identified viz., *Polypedates maculatus*, *Microhyla ornata*; *Kaoula taprobanica*; *Duttaphrynus smelanosticus*; *Fejervarya* sp 1; *Fejervarya* sp 2 (Figures 1-7). Among the above *D. melanosticutus* was found to be abundant active during day and night (Figure 8). Although the present observations are a short duration study it has revealed moderate diversity (Table 1) of anurans laying emphasis to probe amphibian diversity in the region

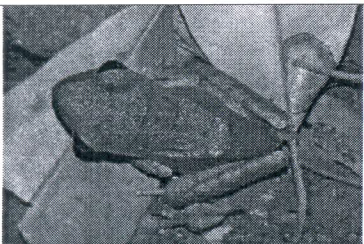

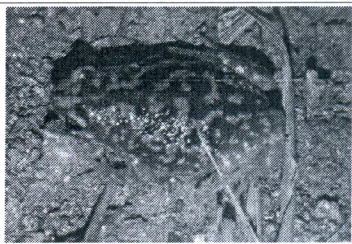
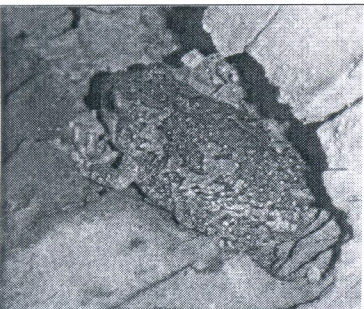

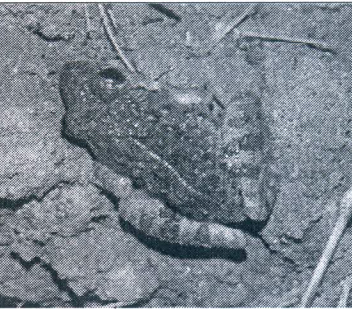
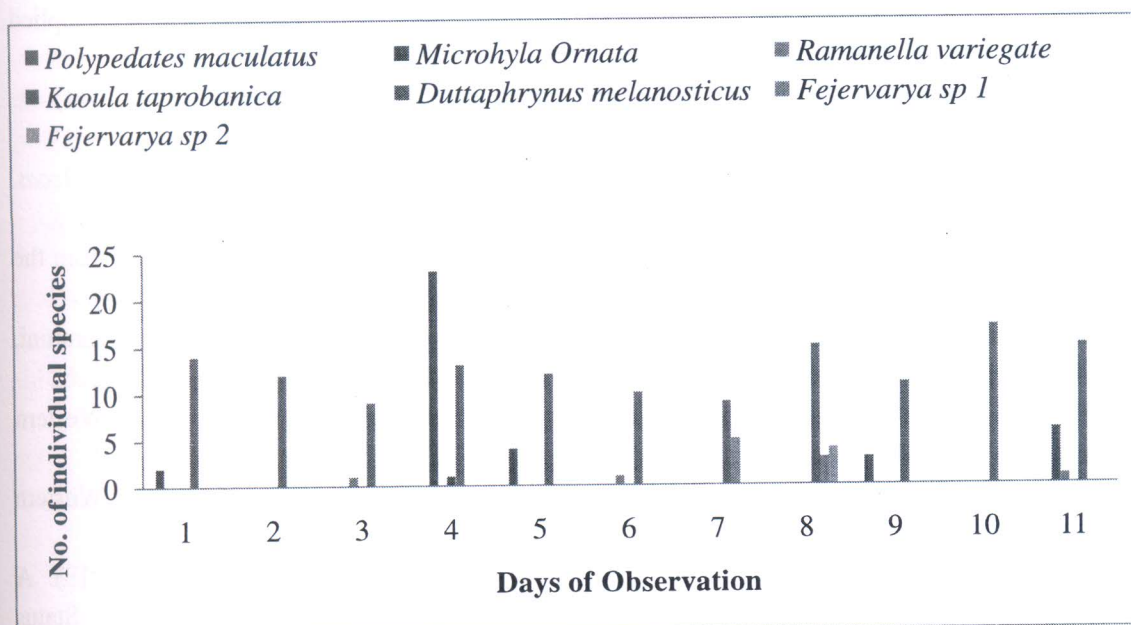
		
Fig.1: <i>Polypedates maculatus</i> (Gray, 1834)	Fig. 2: <i>Microhyla ornata</i> (Duméril and Bibron, 1841)	Fig. 3: <i>Ramanella variegata</i> (Stoliczka, 1872)
		
Fig. 4: <i>Kaoula taprobanica</i> Parker, 1934	Fig. 5: <i>Duttaphrynus melanosticus</i> (Schneider, 1799)	Fig. 6: <i>Fejervarya</i> sp 1

Fig.7: *Fejervarya* sp 2**Figure 8.** Number of individual species recorded during the study period**Table 1.** Biodiversity indices for anuran diversity recorded during the present study

Taxa_S	7.00
Individuals	191.00
Dominance_D	0.54
Simpson_1-D	0.46
Shannon_H	0.98
Evenness_e^H/S	0.38
Brillouin	0.92
Menhinick	0.51
Margalef	1.14
Equitability_J	0.50
Fisher_alpha	1.43
Berger-Parker	0.72
Chao-1	7.00

Sixteen species of anurans are reported from Bengaluru (Anonymous, 2010). Sesadri *et al.*, (2012) reported 17 species of frogs from Bengaluru region. Deepak *et al.*, (2013), recorded 10 species from Bengaluru region of which 6 species were recorded from Anekal region of Bannerghatta National Park, the present study is on the other margin of BNP and thus serves as an additional check list in and around the park. This pilot study from Taralu will form baseline information for future in-depth studies and focus on the impact of anthropogenic activities in the area.

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TUMKUR UNIVERSITY
Vishwavidyanilaya Karyalaya
B. H. Road, Tumkur - 572 103
Karnataka, India.

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