

# Beta Macrophyta Diversity Analysis in the Temporary Pond Habitats of Vettangudi Birds Sanctuary

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## Significance of the Study

- Vegetation diversity is a key determinant factor of ecological health of ponds and the investigation becomes essential to evolve long term management and further to analyze the shifting vegetation structure, the basis for the dependent biodiversity aggregation.
- The objective is to investigate the vegetation diversity of the three temporary ponds, lying at close proximity having varying biotic disturbances

## Experimental Ponds

- Three experimental epidermal ponds, CKPTY, PKPTY and VKPTY located in the Vettangudi Birds Sanctuary, Sivaganga District, Tamil Nadu, India

## Materials and Methods

- Twelve randomly select 1m x 1m size quadrats were established, over the dry benthic and over the edge of the ponds, using list quadrat method
- Enumeration of vegetation species was listed in December 2013, March, June and September 2014, to cover the entire year of the investigation specific seasons
- Data collected on vegetation species were used to determine Margleaf's richness index and Sorenson's similarity index

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Table 1: Sorenson similarity index using echinoderm (presence/ absence) records from the dry benthic surface and shore line region of raised bunds in experimental ponds

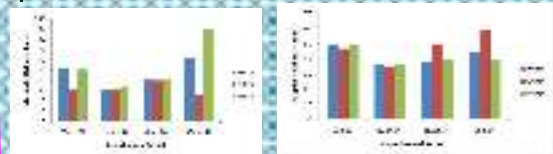
Experimental period	Ponds	Dry benthic surface		Shore line	
		CKPTY	VKPTY	CKPTY	VKPTY
Dec'13	PKPTY	0.68	0.89	0.44	0.84
	CKPTY	1	0.74	1	0.89
Mar'14	PKPTY	0.98	0.93	0.88	0.91
	CKPTY	1	0.93	1	0.93
Jun'14	PKPTY	0.64	0.68	0.69	0.89
	CKPTY	1	0.68	1	0.73
Sep'14	PKPTY	0.48	0.67	0.67	0.86
	CKPTY	1	0.61	1	0.86

Figure 1: Vegetation forms occurred on the shore-line region of the raised bunds in the experimental area



Emergent Woody Sps. Shrubs Lianas Climbers Herbs

Figure 1: Margleaf's Richness Index analyzed on the A) desiccate pond surfaces and B) Shore line region of Raised Bunds at the experimental ponds



### References

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## Results and Discussion

A total of 148 species included in 116 genera, belonging to 41 families and 185 species, included in 142 genera belong to 48 families were respectively encountered from the desiccate pond surfaces and shore-line region of the raised bunds

Poaceae family was found as dominant and this phenomenon is favored by the tropical Eco-climatic condition

Abundant occurrence of herbs over the raised bunds

The gradient of species richness among the three habitats could be attributable due to the varying nature of disturbances including environmental, biological and anthropogenic.

Cover species richness influence ecosystem function and with varying response among the experimental area. Higher rate of species richness beneficial, as they act as carbon sink could prepare resilient ecosystems.