SUMMARY

The Kapla Beel is a perennial open type freshwater wetland in Barpeta District of state of Assam. The geographical position of the Kapla Beel is 26°15’–26°30’ N latitude and 91°0’–91°15’ E longitude. It cover an area of 91 hectre at full storage level but at dead storage level the area is reduced to approximately 55 hectres. The Beel is about 120 Km away towards the west from Dispur, the capital of Assam and 28 Km away from Barpeta town. The Beel is surrounded by number of villages.

The aquatic insect diversity study of the Beel revealed the presence of 46 species of aquatic insects including 5 orders of aquatic insects viz. Coleoptera, Diptera, Hemiptera, Odonata, and Ephemeroptera . Order Coleoptera consist of 20 species comprising of 5 families. Diptera with 3 genera comprising of two families Hemiptera recorded with 13 species comprising of 7 families., Odonata with 8 species comprising of 3 families and Ephemeroptera with 2 genera comprising of 1 family . Coleoptera were recorded in highest number followed by Hemiptera, Odonata, Diptera and Ephemeroptera respectively. The order Coleoptera composed of 44%, Diptera composed of 7%, Hemiptera composed of 29% Odonata composed of 16% and Ephemeroptera composed of 4% each of the total recorded aquatic insects species. This suggests that the Beel is rich in aquatic insects diversity.
Different Physico chemical parameters of water such as Temperature, pH, Conductivity, Dissolved Oxygen, BOD, COD, Total Alkalinity, calcium, Turbidity, Magnesium, Hardness Sulphate and Free CO$_2$ were analysed during the study period and most of the parameters were correlated with the diversity of aquatic insects. It was found that the parameters were under permissible level prescribed by BIS which indicate that the Beel is not subjected to pollution.

The Study on the macrophytes diversity of the Beel revealed 37 species. Out of these 37 species, 19 species of macrophytes were utilized as habitat by aquatic insects. The utilization pattern involves feeding, hiding from predators, shelter and breeding site.

On the whole, The study on Insects diversity, water quality, macrophyte diversity and habitat utilization pattern by Insects showed that the Beel has the potential to harbour large variety of Insects and macrophytes and able to support other dependants floral and faunal components of the Kapla Beel ecosystem on sustained basis.