

M. J. Rodríguez*, I. Martín*, C. Arnáiz**, J. R. Pidre*.

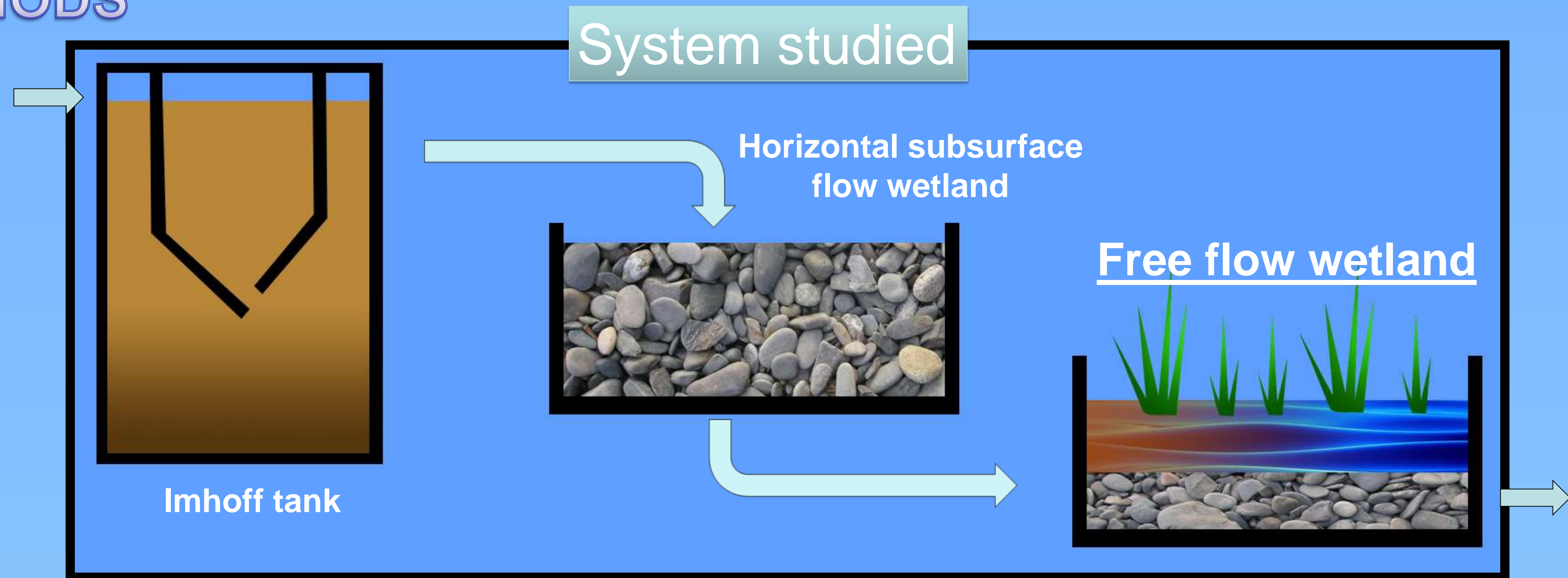
*Foundation Center for New Water Technologies (CENTA). Autovía Sevilla-Huelva (A-49), km 28 - 41820 – Carrión de los Céspedes (Seville), Spain (E-mail: imartin@centa.es, jrpudre@centa.es, mrodriguez@centa.es).

**Departamento de Ingeniería Química y Ambiental Escuela Politécnica Superior. Universidad de Sevilla. Spain. (E-mail: mcarnaiz@us.es.)

1. INTRODUCTION

Andalusian region (South of Spain) owns the greatest heritage in natural wetlands on European Union. Despite this, these environments have supported important losses with the biodiversity's subsequent reduction. This is mainly due to external factors and human actions as well as the poor quality and quantity of water resources. The reuse of treated water to supply aquatic ecosystems has a great potential in the fight against biodiversity loss. To develop an in-depth project focused on biodiversity with colonizing ability in a constructed wetland fed with treated water, preliminary studies were performed on the macroinvertebrates and rotifers fauna inhabiting one of these wetlands.

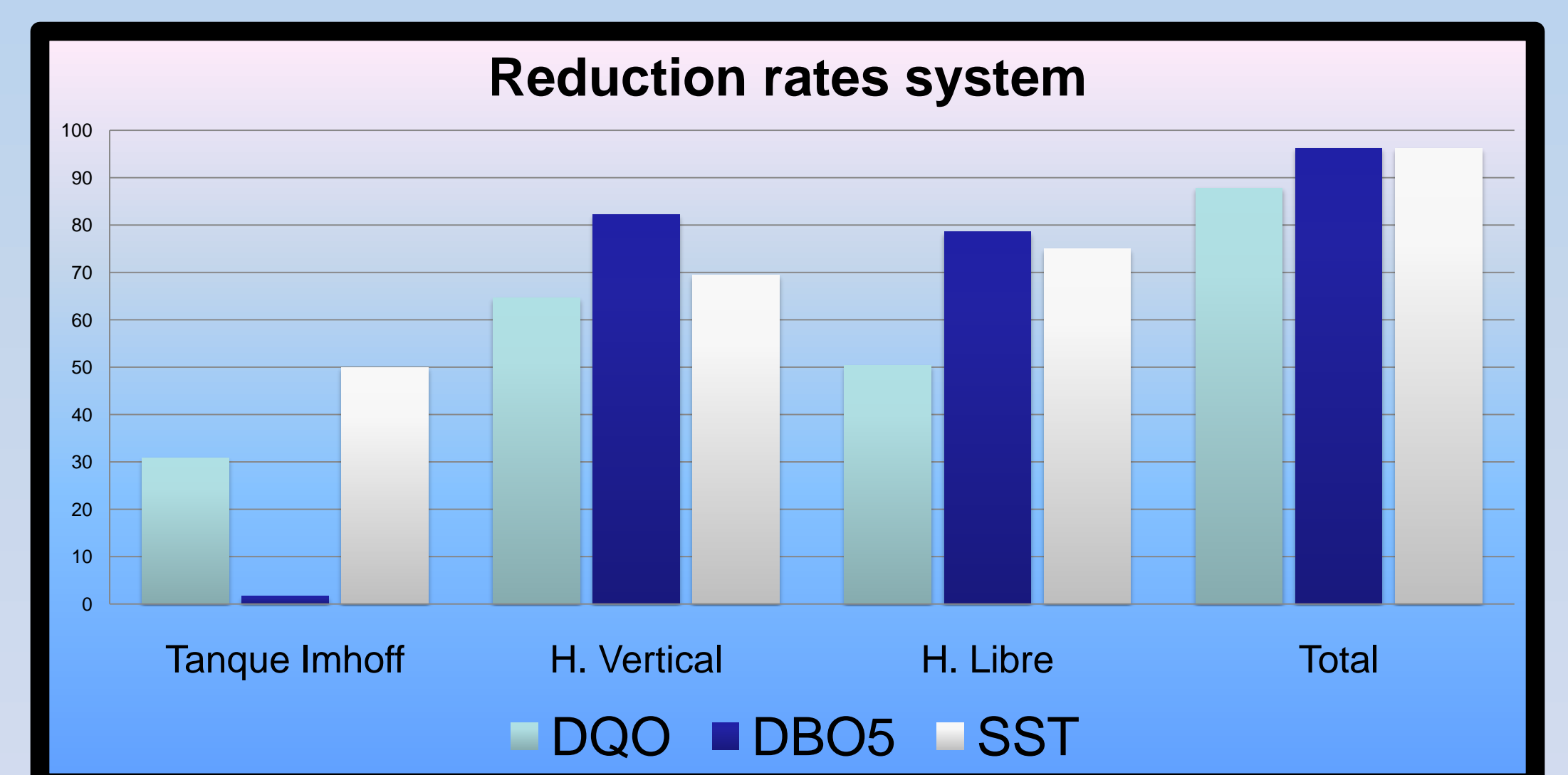
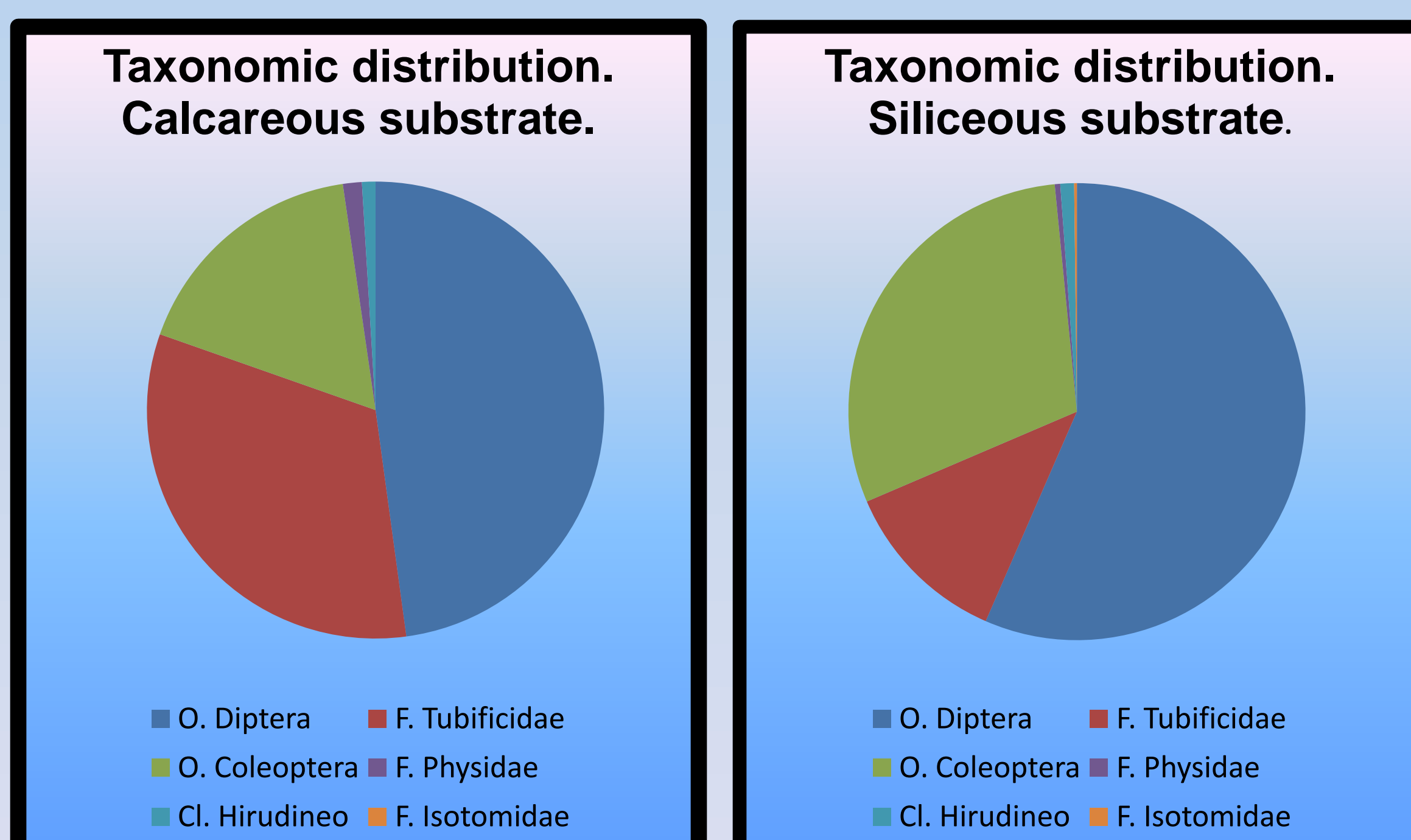
2. METHODS



The pilot experience was monitored along three years in a free flow constructed wetland located in the Carrión de los Céspedes Experimental Plant, near from Seville. Two types of macroinvertebrates sampling traps were designed: one with calcareous substrate and the other with siliceous.



3. RESULTS AND DISCUSSION



Sampling was performed simultaneously to monitor the physicochemical main values. For each sampling date the species differ, as well as for each of the substrates used.

4. CONCLUSIONS

There is a direct relationship between the environmental status and its biocenosis, therefore knowing that biocenosis it's possible to know their status. There are differences in the number of species and individuals for the two substrate types (calcareous and siliceous), usually being higher for the silicon. The order Diptera is the dominant taxon in the fauna of the wetland macroinvertebrates. The Phylum Rotifera is the dominant zooplankton taxon of the wetland. The set consists on Imhoff tank, horizontal flow and surface flow wetlands always meets the reduction values required by law (COD, BOD5 and TSS) and, therefore, it treats effectively.

The experience is the basis for a future work line to demonstrate the use of constructed wetlands as an ecological reuse of treated water, contributes to the recreation of aquatic ecosystems and their biodiversity.