

Introduction

Golf della Montecchia has always been committed to sustainability and has received several awards : Committed to Green award (2007, 2012), GEO Certification (2013, 2016), IAGTO Sustainability Award (2017).

The course is located in a semi-urban/agricultural area. The natural ecosystem is represented by a strip of residual woodland around the castle and villa together with the trees, hedgegroves and wetland areas. Montecchia is close to the Euganean Hills Regional Park and is in the Federparchi list of sites selected for the European Charter for sustainable tourism. Since 2015, a “Biogolf case study” is being conducted on nine holes of the course.

Methodology

Since 2000, qualitative species census has been carried out to identify all classes of fauna species observed by researchers and course staff on the course (Visentin et al. 2003; Sorace e Visentin 2011). Census were taken at different times and seasons to constantly monitor the usage of the territory by the fauna community. Since 2017, wetland areas of the course are part of the wintering waterfowl census within IWC by ISPRA (Ministry of the Environment Agency). Reptiles and amphibians have been recorded for the Padua Province Atlas. Research on insect species is undertaken by the local entomology museum Esapolis. The University of Bologna has been delegated to curate the tree heritage. Since 2013, the University of Padova is researching renaturalization of the grasslands around the course to enhance and preserve biodiversity (Pornaro et al. 2018). Artificial nests were created to allow nesting of the Barn Swallow (*Hirundo rustica*).



Panel on biodiversity study in rough areas



Artificial nest for *Hirundo rustica*

Results and Recorded Species

In the past no specific scientific research on birdlife on the course was done. Some information can be taken from the IGM Table. Bird investigations on the course recorded 36 species. Mature trees allows Great Spotted Woodpecker (*Dendrocopos major*) nesting. Wetlands on the course allow several aquatic bird species to stay on the course with high numbers recorded in the 2017 Wintering Wildfowl Census by ISPRA (148 Mallards, 35 Moorhens and 1 Teal). The Eurasian coot (*Fulica atra*), Eurasian Jay (*Garrulus glandarius*), European bee-eater (*Merops apiaster*), European penduline tit (*Remiz pendulinus*) and the spotted flycatcher (*Muscica pastrata*) were recorded on other census. Mammal species such as the redfox (*Vulpes vulpes*), the European badger (*Meles meles*), the Brown hare (*Lepus europaeus*) and Amphibian species such as the Agile frog (*Rana dalmatina*), the Italian tree frog (*Hyla intermedia*), the edible frog (*Rana esculenta*), the smooth newt (*Triturus vulgaris*) and the European green toad (*Bufo viridis*) have also been identified and recorded and research is on going on invertebrate species.

Recorded conservation
<i>Ardea cinerea</i>
<i>Egretta garzetta</i>
<i>Falco tinnunculus</i>
<i>Caprimulgus europaeus</i>
<i>Picus viridis</i>
<i>Hirundo rustica</i>
<i>Delichon urbicum</i>
<i>Sturnus vulgaris</i>
<i>Passer montanus</i>

Nesting species detected	
<i>Ardea cinerea</i>	<i>Luscinia megarhynchos</i>
<i>Egretta garzetta</i>	<i>Turdus merula</i>
<i>Anas platyrhynchos</i>	<i>Sylvia atricapilla</i>
<i>Caprimulgus europaeus</i>	<i>Aegithalos caudatus</i>
<i>Falco tinnunculus</i>	<i>Parus major</i>
<i>Gallinula chloropus</i>	<i>Cyanistes caeruleus</i>
<i>Larus michahellis</i>	<i>Pica pica</i>
<i>Columba palumbus</i>	<i>Corvus cornix</i>
<i>Streptopelia decaocto</i>	<i>Sturnus vulgaris</i>
<i>Phasaianus colchius</i>	<i>Passer italiae</i>
<i>Apus apus</i>	<i>Passer montanus</i>
<i>Dendrocopos major</i>	<i>Fringilla coelebs</i>
<i>Picus viridis</i>	<i>Serinus serinus</i>
<i>Hirundo rustica</i>	<i>Carduelis chloris</i>
<i>Delichon urbicum</i>	<i>Carduelis carduelis</i>
<i>Motacilla alba</i>	



Triturus vulgaris



Anas crecca* and *Ana platyrhynchos

Conclusion

By preserving more natural spaces with no maintenance, a golf course can become a refuge for species in areas of high anthropization enhancing the local biodiversity and becoming an ecological corridor useful for the diffusion and dispersion of animal and plant species.

References

- Gruppo NISORIA e C.OR.V.O. 1997. Atlante degli uccelli nidificanti nella provincia di Padova. G. Padovan Editore, Vicenza.
 Pornaro C., Macolino S., De Luca A., Sallenave R., & Leinauer B. 2018. Plant Species Diversity of Naturalized Roughs as Affected by Conversion Strategies. Agronomy Journal, 110(5), 1709-1717.
 Sorace A., Visentin M. 2011. Individuazione di habitat e specie di importanza comunitaria, con particolare riferimento alla Classe degli Uccelli. FIG
 Visentin M., Foscolo Foschi U., Sorace A. 2003. Importanza dei campi da golf per la conservazione delle specie ornitiche in Italia. Avocetta 27-76.