

22nd MEETING
OF THE
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Programme & Abstracts

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Angelo Troia



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Investigating the ecology of *Chara cf. baltica* (Characeae) in the Lago Preola ecosystem (Sicily, Italy)

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Lago Preola is a small lake, located in SW Sicily, in a karstic depression within the Nature Reserve "Lago Preola e Gorghi Tondi". With about 33 ha (maximum depth: 2 m), it is the widest of the 5 natural lakes occurring in the Reserve. The presence of species of conservation concern (e.g., *Emys trinacris*, the Sicilian Pond Turtle, and several migratory birds), but also of invasive alien species (e.g., *Procambarus clarkii*, the Red Swamp Crayfish), has been reported for the area. The flora of terrestrial habitats surrounding the basins has been studied extensively, while the aquatic flora and vegetation have not been studied in detail.

The coastal aquifer supplying groundwater to the study area lakes has shown fluctuations in the last decades: CURRY *et al.* (2016) reported that in 2000/2001 Lago Preola dried out completely during the summer drought. Irrigation well pumpage was reduced in 2004, and ceased in 2008, which in combination with abundant precipitation has since resulted in high, stable lake levels (CURRY *et al.* 2016).

The finding of a *Chara*, provisionally identified as *C. baltica* Bruzelius (TROIA *et al.* 2018), has led us to study the distribution and ecology of the species in this area.

C. baltica forms a thick monospecific meadow along the shore at the sampling site. In Summer 2018 the water was slightly brackish (conductivity ca. 4 mS/cm) and slightly alkaline (pH ca. 9). At an analogous sampling site in the nearby lago Murana (conductivity ca. 3 mS/cm, pH ca. 8.6), macrophyte vegetation was instead characterized by a monospecific meadow of the angiosperm *Najas marina* L. s.l., not reported up to now for the Reserve.

In the framework of providing an isotopic baseline for future studies on the ecophysiology of these two macrophytes and on trophic relations within the water basins (RODRIGO *et al.* 2016), we have started analysing carbon and nitrogen stable isotope composition.

Macrophytes for these analyses were sampled at ca. 2 m from the shore, at a depth of approximately 0.5 m. Samples were dried to constant weight, powdered, and analysed with an isotope ratio mass spectrometer and an elemental analyser.

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