

## Plant morphological traits and competition index comparisons of three invasive and native submerged plants



The submerged species Carolina fanwort (*Cabomba caroliniana*) has attracted considerable attention in Lake Taihu Basin (LTB), China. This species was widely used as a garden plant until 2016, when it was identified as invasive. In this study, we conducted a mesocosm experiment to compare the morphological traits, including total dry mass, shoot/root (S/R) ratio, relative growth rate (RGR) and competition index log response ratio (ln RR), of *C. caroliniana* and two frequently co-occurring native submerged plants, water thyme (*Hydrilla verticillata*) and Eurasian watermilfoil (*Myriophyllum spicatum*). The results demonstrated that *C. caroliniana* did not show more advantageous traits (higher total dry mass, S/R ratio and RGR) or have a lower ln RR than *H. verticillata* or *M. spicatum*. We provide a counterexample to commonly accepted thought in which the successful invasion of invasive species may not be explained by outcompeting native plants. Other biotic or abiotic factors that determine the successful invasion of *C. caroliniana* must be studied further.

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