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**List S1.** Chosen functional traits justification.

**Life form** - species classification according to Pedralli (1990). The life form indicates the strategy of habitat adaptation between aquatic macrophytes, species range from amphibious to totally submerge (Irgang & Gastal Jr. 1996).

**Persistence** - species classification in order to be annuals or perennial. The persistence time reveals the contribution of the organism to the ecosystem function (Pérez-Harguindeguy *et al.* 2013).

**Blooming duration** - the blooming duration reveals a greater reproductive success beyond the fact that the organism influences the rounding environment offering resources to the local biota in terms of seeds, fruit and biomass function (Pérez-Harguindeguy *et al.* 2013).

**Height (cm)** - measure made from the base line of the shoot to the upper photosynthetic region. This height measure reveals vigor and light competition between organisms (Westoby *et al.* 2002; Pérez-Harguindeguy *et al.* 2013).

**Leaf width (cm)** - measure of the wider portion of an imaginary circle on the leaf blade. According to Pérez-Harguindeguy *et al.* (2013) this measure has been considered as much efficient as leaf area in a way that with a greater surface contact area, the greater the canopy dominance.

**Leaf length (cm)** - measure of the longest portion of the leaf blade. This trait is supplementary to leaf width reflecting de surface contact area to canopy dominance (Pérez-Harguindeguy *et al.* 2013).

**Leaf thickness (mm)** - mean leaf thickness in 5 different points of the leaf blade excepting the main vein. This trait provides information about the investment in cuticle, palisade and spongy parenchyma as well species strategies for resource acquisition and use (Kitajima & Poorter 2010).

**Petiole length (mm)** - measure of the total petiole length. This trait helps the leaf blade in the capture of light for the photosynthetic activity. We believe that longer petioles would contribute to a greater light absorption and consequently to a greater photosynthetic activity considering that petiole length and leaf blade length are highly associated (Abrahamson 2007).

**Pilosity** - the presence of trichomes at the leaf blade guarantees a micro climate around the stomata avoiding water loss (Brewer *et al.* 1991). Trichomes can also be efficient as mechanical barriers against herbivores, pathogens and intense light (Werker 2000) as well as reducer of radiation absorption reducing transpiration (Skelton *et al.* 2012).

**Leaf consistency (cm)** - the leaf texture reflects an efficient water economy strategy. This trait is supplementary to pilosity. We believe that leaves with a more coriaceous texture are more efficient in water economy due to the presence of a thick cuticle (Pérez-Harguindeguy *et al.* 2013).

**Stem** - diagnosis of stem being prostrated or erect resulting in more or less shade for neighboring organisms as well as wind exposure. According to Henry & Thomas (2002) taller plants growth on the occurrence of shade and/or no wind, while shorter plants growth on sun and/or wind exposure.

**Stem thickness (mm)** - measure of the middle part of the stem length with the help of a digital pachymeter. The stem thickness reveals the efficiency on aerenchyma investment for better gas diffusion inside the plant (Pérez-Harguindeguy *et al.* 2013).

**Root length (cm)** - measure of the longest root. The root length indicates the need for nutrients. In this sense, we believe that a longer root will reveal a plant poorly supplied with nutrients while a shorter root will reveal a plant well supplied by nutrients around (Tabata *et al.* 2014)

**Root architecture** - diagnosis about the root being pivoting or fasciculate. Root architecture has already been associated to water availability (Fitter *et al.* 1991).

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