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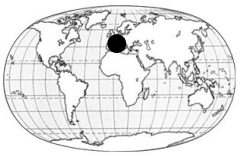

ASSESSING THE VARIABILITY OF COLONISATION BY WATER PRIMROSE WITHIN AN ATLANTIC MARSH

Within the River Vilaine Basin (France, Brittany), aquatic plant invasions are a recent but serious problem. Thus investigations on *Ludwigia hexapetala* (Water Primrose) have been performed in a heterogeneous marsh proposed as an European Union Site of Interest (Natura 2000 network), in order to manage the whole site. The aims were to assess where this invasive helophyte developed and to show possible competition effects with native plants. We also intended to quantify both cover and biomass (by cropping 5 quadrats in apparently homogeneous areas), to analyse plant structure and point out its phenoplasticity. Its distribution was very heterogeneous depending on water level and community competition, but it is able to develop terrestrial forms. A multidimensional analysis led to order the communities with regards to possible invasion. Almost 20 % of the total area had some *Ludwigia*, even within *Phragmites* or *Carex* communities.
In 2003, late autumn crops showed large biomass up to 830 grams of dry weight per square meter (gDW/m), and a relationship between cover and biomass has been showed.
In 2004, detailed studies of biomass and phenology within 3 belts around a pond showed differences between three morphological populations: (i) creeping (on water surface and then on mud), (ii) erected in almost pure population and (iii) mixed with other helophytes. Maximum biomasses were observed in belt (ii): 532 gDW/m in April to 1318 gDW/m in November. The two other belts had lower standing crops.
For both years, the first population showed very branchy plants, with many roots (26 % in July 2004). The two other populations were erected with less branches, more stems and roots (8 % at the same date), and flowered sooner with more abundant flowers.
These results have been presented to managers and we pointed out the difficulties to regulate the invasion in the whole area.

keywords: *Ludwigia*, invasion, marsh, phenology, biomass