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Nationality: Spanish

Orientation: Observation of the ocean and global change
Specialization Area: Global change
Research Area: 1.10 Impact on biodiversity



PhD project: : Understanding the role of clonal traits in plant invasions

Supervisor: Dr. Sergio Rodríguez Roiloa (University of A Coruña)

Summary: One core question in invasion biology is why some exotic species become invasive while others do not. In spite of the research effort developed in the last years to explain biological invasions, this is a process still not well understood. Some plant characteristics might explain the success of invasive species better than others. In particular, clonal growth has been pointed out as an attribute that could contribute to the invasiveness of plants. However, and although many of the most aggressive invasive plant species show clonal growth, little research has been conducted to determine the role of clonal traits in successful invaders. Clonal plants play important roles in many ecosystem processes and dominate many plant communities. Capacity for physiological integration (resource sharing between connected members of the clonal system) and the role of stolons as reserve organs (carbohydrates stored in the stolon can be mobilized helping to buffer stress conditions) are remarkable traits associated with clonal growth. Recent studies have demonstrated that both physiological integration and the role of stolons as reserve organs can contribute to increase survival and growth of aggressive invaders. In this project we aim to determine the role of clonal traits in plant invasions. To cope with this general objective we plan a number of field and greenhouse experiments testing differences in these clonal traits between exotic non-invasive and invasive congeners, and between populations from native and invaded range. In this manner we can determine the presence of adaptive evolution of clonal traits during the invasion process and therefore elucidate the role of clonality in biological invasions.

