

Colonization and dispersal rates of two non-native crayfish species (*Pacifastacus leniusculus* and *Procambarus clarkii*) in NE Portugal

Bernardo J.M.¹, Costa A.¹, Bruxelas S.² and Teixeira A.³

¹*Departamento de Paisagem, Ambiente e Ordenamento, Universidade de Évora, Rua Romão Ramalho 59, 7000-671 Évora. jmb@uevora.pt*

²*Autoridade Florestal Nacional, Av. João Crisóstomo 26-28, 1069-040 Lisboa*

³*CIMO - Centro de Investigação de Montanha, ESA, Instituto Politécnico de Bragança, 5301-855 Bragança*

In Europe, a generalised regression of the native crayfish was observed during the past decades. Simultaneously, several non-native species spread in most countries. In Portugal, the red swamp crayfish, *Procambarus clarkii*, is now occurring in most inland waters.

The NE Portugal is one of the most isolated and low populated regions of Western Europe. Most rivers in this region present low levels of human impact and some are actually pristine. Recently, two American crayfish species reached the area: signal crayfish (*Pacifastacus leniusculus*) coming from Spain and red swamp crayfish. The isolation and the natural conditions of these rivers make them particularly valuable for the study of crayfish colonization and spreading.

The colonization by both species was followed throughout the last decade in the Maças river (Douro catchment). Sampling was undertaken every year with baited traps.

The average dispersal rate of signal crayfish was approximately 2 km/year, although a great variability among sectors was observed. Coexistence of signal and red swamp crayfish was detected in a large part of the river system. Signal crayfish developed well adapted and persistent populations. The lower abundance of red swamp crayfish is apparently caused by the low winter temperatures.

Keywords : *Pacifastacus leniusculus*, *Procambarus clarkii*, dispersal, coexistence