

How behavioural studies help to control invasive alien crayfish

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Studying behaviour is a key factor for improving knowledge on invasive alien species and develop effective management methods for controlling them. Alien crayfish have been the subject of much research to understand their behaviour and impacts, leading to innovations and successful application of new control techniques in conservation actions. Several studies conducted to assess sexual selection, mating strategies, aggression, anti-predator and predatory behaviour, and personality were crucial for improving and developing appropriate techniques for the control of their invasive populations. Moreover, an integrated approach (e.g. coupling intensive trapping and sterile males/females release techniques or intensive trapping and native predators) is usually recommended for their management. Again, behavioural studies lie behind this approach as it is known from laboratory and field observations that, for example, adult crayfish are more vagile and tend to be trapped, while juveniles are more trap-shy but they are the preferred size preyed on by fish and aquatic birds. We the need to integrate behaviour and conservation biology in order to find the best management solutions for invasive species and thereby protect native species and ecosystems. The Louisiana red swamp crayfish *Procambarus clarkii*, one of the most widespread introduced species worldwide and highly invasive in European fresh waters, will be used to provide a powerful illustration of this integration.

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