

THE ALIEN BEETLE *OOPTERUS SOLEDADINUS* (COLEOPTERA: CARABIDAE) IN THE KERGUELEN ISLANDS : A MAJOR THREAT TO NATIVE ARTHROPOD COMMUNITIES

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The flightless beetle *Oopterus soledadinus* (Guérin-Méneville, 1830), is present in Patagonia and is very common on the Falkland Islands. This species have been introduced on South Georgia (first report in 1963) and on Iles Kerguelen (first report in 1939) where this species is likely to have been introduced around 1912 into a single site, Port-Couvreux, with sheep originating from Falkland Islands. Then this polyphagous-predator has spread, mainly in coastal habitats. A survey was carried out in 2005-2006 to clarify the current distribution of *O. soledadinus* and its impact on arthropods populations which have very few native predators.

Presence and abundance of *O. soledadinus* and two common native Diptera species, *Anatalanta aptera* and *Calycopteryx moseleyi*, were recorded using a standardised method of sampling in more than 1000 sites in the eastern part of Iles Kerguelen. In addition trapping of the arthropod fauna was conducted at sites free of *O. soledadinus* and in similar habitats where the date of arrival of this species is known.

The expansion of *O. soledadinus* on Iles Kerguelen has greatly increased since the previous survey in 1994. Numerous sites (the research station Port-aux-Français, several islands in Golfe du Morbihan,...), far from Port-Couvreux, have been recently infested. Coastal habitats were preferentially colonized, as reported previously on South Georgia and on Iles Kerguelen but this study highlighted that inland was also affected. There was a significant relationship between abundance of *O. soledadinus* and a decrease or extinction of *A. aptera* and *C. moseleyi* populations. According to trapping results, the beetle had a profound impact on all macroarthropods.

The highest figures for abundance and dispersal of Kerguelen's *O. soledadinus* compared to South Georgia might well be the result of the less severe climate of Iles Kerguelen. The climate change currently recorded at Iles Kerguelen is susceptible to reinforce the dispersion and impact of this alien predatory beetle which is becoming a major threat to native invertebrate fauna, on an unexpected scale.