

## *Trechisibus antarcticus*

**System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Carabidae

### Common name

### Synonym

### Similar species

### Summary

Detailed studies completed on *Trechisibus antarcticus*, on South Georgia indicate that a major consequence of its introductions to the Sub-Antarctic and Antarctic region, includes the considerable reduction in populations of endemic herbivorous perimylopod beetles, whose larvae form a major prey item. Carabids are thought to be restricted by the low temperatures of their habitats and are likely to be sensitive to any increase in availability of thermal energy brought about by climate warming.



[view this species on IUCN Red List](#)

### Species Description

*Trechisibus antarcticus* is a flightless ground beetle up to 0.5 cm long and 10 mg live weight (Todd 1997).

### Notes

The introductions of predatory carabid beetles such as *Trechisibus antarcticus* to South Georgia may provide an illustration of the potentially rapid ecosystem changes caused by the introduction of foreign species. They also provide a form of natural experiment testing ecological theories about the consequences of introducing new trophic levels into natural ecosystems which would otherwise be impossible (Convey *et al.* 2006a).

### Habitat Description

In South Georgia, sub-Antarctica, *Trechisibus antarcticus* is invading the coastal lowland areas and building up local high densities in the dominant tussock-forming grass *Parodiochloa flabellata* (Ernsting *et al.* 1999). Together with an ample food supply in the form of small arthropods and beetle larvae and a vacant niche for arthropod predators, the benign microclimate of the tussock vegetation may explain the success of this and similar predator beetle introductions in South Georgia (Brandjes Block & Ernsting 1999). Compared with other habitats, tussock provides a buffered and stable thermal regime that will facilitate the spread of *T. antarcticus* throughout the lowland areas (Brandjes Block & Ernsting 1999).

### Nutrition

Laboratory experiments have shown that the carnivorous *Trechisibus antarcticus* is a voracious predator, feeding on beetle larvae and other soil arthropods (Ernsting *et al.* 1999). *T. antarcticus* feeds on various mites and springtails the larvae of the herbivorous beetle *Hydromedion sparsutum* on South Georgia (Todd 1997).

## General Impacts

In the same coastal areas in South Georgia where *Trechisibus antarcticus* has colonised, lives an endemic detritivorous beetle known as *Hydromedion sparsutum* (Perimylopidae). It is common especially in and beneath the tussock grass. The first three larval instars (stages) of *H. sparsutum* are easily taken prey by the carabid *T. antarcticus*. On sites colonised by the carabid, total abundances of larval and adult *H. sparsutum* are far lower (Ernsting *et al.* 1999).

## Principal source:

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## Review:

**Publication date:** 2009-04-27

## ALIEN RANGE

[1] SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS

## BIBLIOGRAPHY

10 references found for *Trechisibus antarcticus*

### Management information

#### General information

[Australian Antarctic Data Centre \(AADC\). Undated. Biodiversity - SCAR EBA program: Bioregions by Taxa: List of bioregions for \*Trechisibus antarcticus\* \(Beetle\) \(profile\)](#)

**Summary:** Available from: [http://data.aad.gov.au/aadc/biodiversity/bioRegion\\_By\\_Taxa.cfm?taxon\\_id=102059](http://data.aad.gov.au/aadc/biodiversity/bioRegion_By_Taxa.cfm?taxon_id=102059) [Accessed 28 August 2008]

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**Summary:** Article de synthèse sur les invasions biologiques (plantes, invertébrés et vertébrés) en antarctique.

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