Hypogastura purpurescens **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Collembola	Hypogastura

Common name

Synonym

Similar species

Summary

The alien component of springtail fauna varies considerably between islands in the sub-Antarctic. On Heard Island there are none, increasing in numbers on South Georgia, Macquarie, Kerguelen, Crozet and Marion. Several of these species are widespread invasives, especially those in the genus *Hypogastura*. *H. purpurescens* is described as \"highly invasive\" and is thought to have displaced resident species from some habitats on the island of South Georgia.

view this species on IUCN Red List

Species Description

Hypogastura purpurescens has a purplish-grey body, three clavate tenent hairs on each leg, only two positioned in apical whorl, third tenent hair in anteapical whorl of setae (Convey *et al*. 1999).

Habitat Description

Habitat for *Hypogastura purpurescens* relate to adequate and appropriate food sources and include areas with decaying plant matter (such as marine littoral zones), areas with fungal fruiting bodies and sometimes carrion (Greenslade 2002). The species in found in tussock grass areas on South Georgia (Convey *et al*. 1999).

Nutrition

Collembola species are detrivores and feed of decaying plant matter, fungal fruiting bodies and sometimes carrion (Greenslade 2002).

General Impacts
Hypogastura viatica, a related species, has already been introduced to the Antarctic Peninsula and to a number of other sub-Antarctic Islands where it often dominates upper marine littoral habitats. It is likely *H. purpurescens* will have a similar affect on native ecosystems and food-webs. As detrivores, Collembola (commonly known as springtails) may have a significant impact on decomposition processes (Greenslade 2002).
According to a Collembola species pest risk assessment for Heard Island (Greenslade 2002) the highest ranked pest species include members of the family Hypogastruridae, which are already recorded from South Georgia and the Antarctic Peninsula. Appropriate management strategies are proposed to reduce the risk of the high priority species being introduced to Heard Island.\n
Current records indicate that about twenty Collembola species have been already introduced to other subantarctic islands. Criteria in the pest assessment were partially selected from those currently used for pest risk and weed assessment in import risk analyses (Pheloung 2001, in Greenslade 2002). The five scored criteria were:ndistribution; life history; habitat; ecosystem synchrony; and dispersal ability. They relate respectively to: proximity potential; population potential; establishment potential; persistence potential; and spread. Scores given for *H. purpurescens* were 4, 3, 3, 1, 3, respectively with a total score of 14 and ranked third highest out of 20 candidate taxa scored. *H. purpurescens* is not currently present on Heard Island and strict quarantine principles are thought to be necessary to be adhered to in order to keep the species, and related species, off the island.

Management Info
Chown and colleagues (1998, in Greenslade 2002) recommend that human activities on large islands should be regulated more tightly because these authors found a strong relationship between both area and exotic plant species and area and human occupancy. Considering both the rate of recent introductions and the relationship between introductions and human impacts, it is apparent that current quarantine measures are not sufficiently focused to reduce the risk of introducing exotic invertebrates to these islands to negligible levels.
Quarantine controls such as various types of inspection, washing procedures, sampling and extraction procedures, fumigation and exclusion can be used to manage and reduce to negligible levels the risks of new incursions. As a result of the risk assessment carried out for exotic Collembola becoming established on Heard Island here, the highest risk is from species in the family Hypogastruridae. They are most likely to be transported on materials collected for marine littoral research and on scientific equipment used in marine and coastal environments.
Fumigation with steam and vaporised formalin are used in the mushroom industry to control pest species including Collembola but these methods are not practical on Heard Island.

Pathway
Hypogastrura spp. could be carried to Heard Island in fresh vegetables, in particular on unwashed potatoes or mushrooms (especially fresh wild collected species). They may be present in soil on equipment, vehicles or clothing (particularly boots) or from under containers and pallets (Greenslade 2002).

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group (ISSG) with support from the EU-funded South Atlantic Invasive Species project, coordinated by the Royal Society for the Protection of Birds (RSPB)

Review:

Pubblication date: 2009-04-27

ALIEN RANGE

[1] AUSTRALIA

[1] FRENCH SOUTHERN TERRITORIES

[2] SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS

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ITIS (Integrated Taxonomic Information System), 2009. Online Database *Hypogastura purpurescens* (Lubbock, 1867)

Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
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