On the occurrence of *Oryzaephilus mercator* (Fauvel, 1889) (Coleoptera, Silvanidae) on Svalbard, Norway

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The grain beetle *Oryzaephilus mercator* (Fauvel, 1889), the merchant beetle, is reported from dwellings in Svalbard. This is the first time living individuals of this species have been recorded from the archipelago.

Key words: *Oryzaephilus*, Svalbard, Spitsbergen, Arctic, Grain, Merchant

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INTRODUCTION

Grain beetles such as *Oryzaephilus mercator*, the merchant beetle, are common pest species throughout the world (Halstead 1980). They are opportunistic species, often travelling large distances associated with stored food stuffs and exploiting the opportunities provided by humans. One dead individual of *O. mercator* has been previously recorded from Svalbard, collected from an untenanted hut at Sørgattet (north west coast, 79° 30' N 10° 30' E) (Kangas 1967) but no living specimens were observed.

RECORDS AND DISCUSSION

Five adult beetles (2 ♀♀ and 3 ♂♂) were collected in November 2006 from the kitchen area of one of the permanently inhabited accommodation buildings in Nybyen locality in Longyearbyen.

Few invertebrates have been shown to have colonized Svalbard as a result of human activities. The cestode worm, *Echinococcus multilocularis* which parasitizes the sibling vole (*Microtus rossiaemeridionalis*; intermediate host) and the arctic fox (*Alopex lagopus*; definitive host) at the abandoned Russian coalmine at Grumont (Henttonen et al. 2001), is the only known invertebrate species that has successfully established a natural population. However, even this cestode is dependent on the vole which is in itself an introduced species to Svalbard. The commonly cited story of the mosquito, *Aedes nigripes* (Zetterstedt, 1838), arriving with phosphate miners in 1918 (Hoel 1967) is almost certainly incorrect as this species had been observed in the locality previously (Holmgren 1869). Nonetheless, several other species have been observed living in close association with humans on Svalbard, for example the spider *Thanatus formicinus* (Clerck, 1757) (Aakra & Hauge 2003, Aakra pers. comm.), as well as flour moths and cockroaches recorded in Longyearbyen and Barentsburg respectively (Svalbardposten 2006a and b).

Despite a potentially high dispersal ability, *O. mercator* is unlikely to establish populations beyond the confines of the human settlements on Svalbard due to the lack of a sufficiently cold

hardy stage and a high temperature optimum of approximately 30°C (Howe 1956, Lale et al. 1996). Diapause has not been identified in this species (Cox & Collins 2002), indeed, cold treatment is a commonly applied technique used to sterilize stored grains from such beetle infestations (Fields 1992). The lack of a cold hardy stage implies that the individual collected by Kangas from the hut, which are often unheated for the majority of the year, was either imported directly from the Norwegian mainland with the food stuffs or from a population in Longyearbyen.

In the most recent checklist of the terrestrial and freshwater invertebrate fauna of Svalbard and Jan Mayen (Coulson & Refseth 2004) *O. mercator* is erroneously presented a junior synonym of *O. surinamensis*. This is incorrect and *O. mercator* is a valid species distinct from *O. surinamensis* (Howe 1956, Halstead 1980). All specimens of *Oryzaephilus* collected from Svalbard are *O. mercator* and to date *Oryzaephilus surinamensis* has not been recorded from Svalbard.

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