



A new genus and two new species of saccamminid foraminiferans (Protista, Rhizaria) from the deep Southern Ocean*

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Abstract

We describe two new species of spherical single-chambered ('saccamminid') foraminifera from the bathyal and abyssal Weddell Sea (Southern Ocean), collected in epibenthic sledge and Agassiz trawl samples obtained during the 2005 ANDEEP III campaign. Both are assigned to *Leptammina* gen. nov. The new genus is similar in overall test morphology to *Saccammina* Carpenter, 1869; it is distinguished mainly by its test wall, which is delicate, flexible and composed of fine mineral grains, rather than being rigid and coarsely agglutinated. In *Leptammina grisea* gen. et sp. nov., the test wall is relatively thick, grayish with a violet tinge and a dull surface; the cytoplasm is dark greenish. In *Leptammina flavofusca* gen. et sp. nov., the test is yellowish brown, with a very finely, almost translucent agglutinated wall; the cytoplasm is pale yellowish. Both species have prominent circular apertures. Maximum likelihood phylogenetic analysis of SSU rRNA gene data showed that both species group together with an undescribed shallow-water Antarctic species ("silver saccamminid") in a very strongly supported clade (100%). *Leptammina grisea* gen. et sp. nov. is a relatively uncommon species (29 specimens from 3 stations), found at 1580–4822 m depth in the central and north-western Weddell Sea; *Leptammina flavofusca* gen. et sp. nov. is common (398 specimens from 4 stations) at depths of 3138–4795 m in the central Weddell Sea and off Kapp Norvegia. Both species are presently known only from ANDEEP III samples.

Keywords: Foraminifera, Weddell Sea, Antarctica, *Leptammina*, Taxonomy, Deep Sea, ANDEEP

Introduction

Monothalamous (single-chambered) foraminiferans are a common and widespread component of benthic marine faunas and sometimes dominate the meiofaunal size fraction (Gooday 2002). However, this group is regarded as difficult to work with, and therefore often overlooked or neglected, because of paucity of clear morphological characters of the test or cell content. As a result, many species remain undescribed. Foraminiferans have been investigated in Antarctic waters for more than a hundred years (see Cornelius & Gooday 2004 for references), but few monothalamous species have been described. A large number of undescribed single-chambered taxa were collected during the ANDEEP II and III expeditions to the Weddell Sea and adjacent areas (Pawlowski *et al.* 2004; Gooday *et al.* 2006). Two species, *Conqueria laevis* and *Bathyallogromia weddellensis* present in ANDEEP II samples were recently described by Gooday & Pawlowski (2004) and Gooday *et al.* (2004a), respectively. A third species, *Vellaria zuccellii*, was established