



Changes in ultrastructural features of the foraminifera *Ammonia* spp. in response to anoxic conditions: Field and laboratory observations

Submitted by Jean-François Coste on Tue, 01/08/2019 - 17:01

Titre	Changes in ultrastructural features of the foraminifera <i>Ammonia</i> spp. in response to anoxic conditions: Field and laboratory observations
Type de publication	Article de revue
Auteur	Koho, Karoliina Annika [1], Lekieffre, Charlotte [2], Nomaki, Hidetaka [3], Salonen, I. [4], Geslin, Emmanuelle [5], Mabilieu, Guillaume [6], Sogaard Jensen, Louise Helene [7], Reichart, Gert-Jan [8]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	Janvier 2018
Pagination	72-82
Volume	138
Titre de la revue	Marine Micropaleontology
ISSN	03778398
Mots-clés	Anoxia [9], Bacteria [10], benthic foraminifera [11], lipid droplets [12], Ultrastructure [13]
Résumé en anglais	<p>The ultrastructure of the living foraminiferan, <i>Ammonia</i> sp. (phylotype unknown), collected from surficial and deeper, subsurface (anoxic) sediments from the Dutch Wadden Sea, was examined to provide information on the physiology of the foraminiferal cell and its adaptive strategies to low-oxygen conditions. The observed changes in cell ultrastructure under anoxia were further compared with the cell ultrastructure of <i>Ammonia</i> sp. (phylotype T6), from oxic and anoxic incubation experiments. The ultrastructural evidence indicates that under low-oxygen conditions <i>Ammonia</i> spp. may accumulate lipid droplets. In addition, the size of the lipid droplets may increase with the duration of anoxic conditions, becoming over 5 μm in size, while the remaining cytosol of the foraminiferan become less electron dense. In some specimens, lipid droplets were also found in the space between the plasma membrane and the organic lining. We expect that the apparent increase in the number and size of the lipid droplets is indicative of a stress response of the foraminifera to the adverse anoxic conditions. Other ultrastructural changes in response to anoxia include the presence of intact bacteria and electron dense opaque bodies within the foraminiferal cytosol, and a possible thickening of the organic lining. The role of the bacteria remains enigmatic but they may be linked to foraminiferal dormancy in anoxia.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua18565 [14]
DOI	10.1016/j.marmicro.2017.10.011 [15]

Lien vers le document <https://www.sciencedirect.com/science/article/pii/S0377839817300385?via%...> [16]
Titre abrégé Mar. micropaleontol.

Liens

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- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26038>
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- [15] <http://dx.doi.org/10.1016/j.marmicro.2017.10.011>
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Publié sur *Okina* (<http://okina.univ-angers.fr>)