

THE APPEARANCE OF NEW BACTERIA AND METAL CORROSION: NEW BACTERIUM SPECIES DISCOVERED ON RMS TITANIC RUSTICLES

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The Titanic sinking in 1912 resulted in global consequences. Some of the important consequences resulted in marine research and the development of submersible technology. After the discovery of the wreck in 1985, scientific research reached a new high due to interest in the well know tragedy.

The rusticle samples were obtained from the 1991 expedition to the wreck. In the years following the attempt to isolate different bacteria which reside in and form the rusticles was undertaken. Due to different mini environmental niches which exist in the rusticles one species was isolated and identified as *Halomonas titanicae*. This species is characterized as halo-philic and gram negative. They also have polar and lateral points of origin of flagella indicating they are peritrichous and motile. It adheres to iron surfaces forming knob-like mounds. The rusticles are highly porous and support a complex variety of microorganisms.

This species can affect marine industry by corroding structures like oil rigs, oil and gas pipelines etc. It can also be used to dispose of old merchant and naval ships and oil rigs in the ocean after they have been cleaned of toxins and oil based products.