

trosopic, gravimetric, and thermoanalytical methods. Results clearly show alterations of starch blend – after 28 days approximately 15 % reduction in mass for those with a diameter of 3 mm in size and 25 % reduction in mass for those of 6 mm diameter (fig. 1). In contrast, no variations (after 28 days less than 1 % reduction in mass) could be observed for polypropylene particles. The chosen particle sizes of 3 and 6 mm diameter correspond to those that may be introduced into the digester by food packages as co-substrate

This research work is a first step in order to analyse degradation and compare variations in material properties of different polymers in digested sewage sludge. All studies took place within the frame of project "Strategies for the reduction of urban plastic emissions into limnic systems (PLASTRAT)", funded by the Federal Ministry of Education and Research (BMBF) as part of priority programme "Plastik in der Umwelt – Quellen, Senken, Lösungsansätze".

Keywords: polymers, anaerobic environments, sewage sludge, analysis, degradation

*Speaker †Corresponding author: annett.mundani@unibw.de

Are drifting microplastics entry vectors of alien species in the Canary Islands?

Emilio Soler Onís*† 1, May Gómez 2, Alicia Herrera 2, Juan Fernández Zabala 1

1 Spanish Bank of Algae. FPCT of the University of Las Palmas de Gran Canaria – Muelle de Taliarte s/n. 35214 Telde, Canary Islands, Spain, Spain 2 Marine Organisms Physiology. ECOAQUA. – Faculty of Marine Sciences, Campus Tafira, University of Las Palmas de Gran Canaria, 35017 Las Palmas, Canary Islands, Spain, Spain

Exotic, invasive, alien, non-native and harmful species are being transported around the world by drifting plastic debris, though not a shipping vector, has also been shown to cause transoceanic transfer of marine life. The introduced organisms include viruses, bacteria, spores, algae, microalgae, cyanobacteria and others, which have a global, ecological, social and economic impacts. From the ecological point of view, invasive species has been identified, in general, as the second greatest threat to global biodiversity after habitat loss. In the last years, the identification of microalgae and cyanobacteria species with a distant biogeographical distribution in isolated areas without any anthropogenic disturbances of the Canary Islands as for instance, *Meloneis mimallis* (Milos Island, Mediterranean Sea), *Procentrum panamense* (Martinique, Contadora, French Polynesia and Panama) *Prorocentrum sipanadense* (Sipadan Island, Malaysia), *Prorocentrum elegans* (Belize), *Cabra levis* (Sea of Japan, Russia), *Gambierdiscus caribaeus* (Caribbean Sea, Florida and Belize) suggests that there are several vectors and pathways for aquatic invasive species in the archipelago (ballast waters, aquaculture, sediment transport, etc.) In this study, an account of

suspect alien species found on microplastics, that may have been inadvertently introduced into the Canary Archipelago is presented. This fact suggests that drifting microplastics could be an important vector for aquatic invasive species in the Canary islands.

Keywords: Alien species, microalgae, HABs, Canary Islands

*Speaker †Corresponding author: esoler@marinebiotechnology.org

Are microplastics vehicles of bacteria or virus pathogens for marine bivalves?

Ika Paul-Pont *† 1, Yannick Labreuche 2,3, Morgane Chalopin 1, Christine Dubreuil 4, Lois Maignien 5, Anne-Laure Cassone 1, Bruno Petton 4, Christophe Lambert 1, Julie Reveillaud 6, Damien Piel 2, Frédérique Le Roux 2, Arnaud Huvet 7

1 Laboratoire des Sciences de l' Environnement Marin (LEMAR) – Centre National de la Recherche Scientifique : UMR6539, Université de Brest : UMR6539, Institut français de Recherche pour l'Exploitation de la Mer, Centre National de la Recherche Scientifique, Institut de Développement, Université de Brest – IUEM Technopôle Brest-Iroise - rue Dumont Recherche d Urville pour le - 29280 Plouzané - FRANCE, France 2 ifremer, Unité Physiologifremer, e Fonctionnelle des Organismes Marins, – Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER) – ZI de la Pointe du Diable, CS 10070, F-29280, Plouzané, France, France 3 Sorbonne Universités, UPMC Paris 06, CNRS, UMR 8227, Integrative Biology of Marine Models, – Sorbonne Universités, UPMC Université Paris 6 – Station Biologique de Roscoff, CS 90074, F-29688, Roscoff cedex., France 4 Ifremer, Laboratoire des Sciences de l' Environnement Marin (LEMAR), UMR 6539 UBO/CNRS/IRD/Ifremer – Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER) – CS 10070, 29280 Plouzané, France 5 Laboratoire de Microbiologie des Environnements Extrêmes (LM2E) – Institut Universitaire Européen de la Mer (IUEM), Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER), Université de Bretagne Occidentale [UBO], CNRS : UMR6197 – Institut Universitaire Européen de la Mer, Rue Dumont d'Urville, 29280 Plouzané, France 6 ASTRE, INRA, CIRAD, Université de Montpellier – Institut National de la Recherche Agronomique - INRA, Centre de coopération internationale en recherche agronomique pour le développement [CIRAD] 7 Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER) – 155, rue Jean-Jacques Rousseau - 92 138 Issy-les-Moulineaux Cedex, France

Microplastics (< 5mm) exhibit intrinsic features such as density, hydrophobicity, or high surface/volume ratio, that are known to promote microbial colonization and biofilm formation in marine ecosystems. Some studies investigating microplastic associated bacterial communities in marine ecosystems revealed specific bacterial assemblages in comparison to the surrounding seawater, and among these the *Vibrio* genus appeared as commonly detected in the microplastic fraction. The *Vibrio* genus comprises numerous pathogenic species for human and marine organisms, including juvenile oysters (*Crassostrea gigas*) in which they have been associated, together with the presence of a herpes virus (OsHV-1 μ var), to successive mortality outbreaks in France raising questions about the role of microplastics on pathogen population transport and disease transmission. To address such question, we immersed plastic pellets of three different polymers (polyethylene,