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## BONATTO, DIEGO

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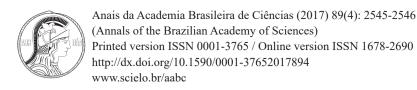


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### **EDITORIAL NOTE**

# Landslide hazard mapping, DNA damage induced by sucrose and the biotechnology potential of sponge-associated bacteria communities

### **DIEGO BONATTO**

Laboratório de Biologia Computacional e Molecular, Departamento de Biologia Molecular e Biotecnologia, Centro de Biotecnologia, Universidade Federal do Rio Grande do Sul, Av. Bento Gonçalves, 9500, Prédio 43421, Sala 107, Caixa Postal 15005, 91509-900 Porto Alegre, RS, Brazil

Since its foundation in 1929, the major concern of Annals of The Brazilian Academy of Sciences (AABC) has been to promote scientific investigations in different research fields that could improve the welfare of our populations. In fact, the current number of AABC clearly displays this long-standing editorial tradition.

The growth of population in a worldwide scale and the social vulnerability of different human communities subjected to war, economy collapse, ethnical persecution and poverty impose a strong pressure to occupy multi-hazard environments, like flood plains and hill slopes subject to landslides (Sullivan-Wiley and Gianotti 2017). As human communities occupy unstable hill slope areas, activities like deforestation or irregular building sites increase the probability of landslide occurrence (Dai et al. 2002). Thus, it becomes imperative to assess the regional factors that could trigger a landslide event. The manuscript of Cerri et al. (2017) invokes a new geologic strategy to evaluate potential landslide regions in Serra do Mar based on soil fractures and foliation, and the slope geometry of the area. This method could improve the diagnostic of hazard in hill slope areas and directly impact the development of a framework for safe hill slope use for agricultural and urban purposes.

Carbohydrate consumption is a major public health concern nowadays, since it represents a large percentage of total energy intake in adults and children worldwide (Azaïs-Braesco et al. 2017, Wittekind and Walton 2014). Despite the development of nutritional guidelines that promotes the reduction of sugars in industrial processed foods, there are evidences that high sucrose western diets are linked to metabolic syndrome (Zhou et al. 2014), nonalcoholic fatty liver disease (Ishimoto et al. 2013), and cardiometabolic disease (DiNicolantonio and Lucan 2014). Unfortunately, the molecular effects of a high sucrose diet are less understood. Early efforts to understand the effects of carbohydrate metabolism and DNA damage were made using *Saccharomyces cerevisiae* as a model and a systems biology approach (Barea and Bonatto 2008), showing that reactive carbonyl species (RCS) provided by sugar metabolism could be linked to DNA damage. The manuscript of Franke et al. (2017) also addresses this question, and shows that the consumption of a high sucrose diet in rat model promotes DNA damage in hippocampus hence it contributes to the development of diabetes-associated neuropathologies.

Nowadays, marine sponges represent a new and very exciting biotechnology approach to explore a large reservoir of secondary metabolites and associated bacterial communities that produce biomolecules with important applications in health and industry (Bibi et al. 2017, Calcabrini et al. 2017). Considering the biological diversity of sponges existing in the Brazilian coast (Van Soest et al. 2012), the potential for discovery of new molecules for health and industry is very large, and this aspect is explored in the manuscript of Araújo et al. (2017) by studying the bacterial communities present in three marine sponges species collected in the coast of Rio de Janeiro, Brazil. Their data also fundament the opportunity for the study of a group of organisms that are essential for the conservation of marine ecosystems.

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