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EDITORIAL NOTE

Protein extraction methods of tomato, environmental changes of the Amazon Forest in Roraima (northernmost part of Brazil) for the last 1000 years, and histological characteristics of a dolphin species

ALEXANDER W.A. KELLNER

Laboratório de Sistemática e Tafonomia de Vertebrados Fósseis,
Departamento de Geologia e Paleontologia do Museu Nacional/UFRJ,
Quinta da Boa Vista, s/n, Bairro Imperial de São Cristóvão, 20940-040 Rio de Janeiro, RJ, Brasil

The large-scale study of proteins focusing on their structures and functions is an area that has been growing fast in the last decades, including its application in Agrarian Sciences (e.g., Arruda et al. 2013). Concerning plant specimens, there is a need for special attention on how to apply proteomic techniques since each tissue has specific properties, making the preparation of the samples a critical part of the whole process (e.g., Tabb 2013). The present issue of the *Annals of the Brazilian Academy of Sciences* (AABC) has a study that evaluates methods used in the extraction of proteins focusing on proteomic studies of tomato leaves and roots. Milca Vilhena and colleagues observed that there are no clear protocols regarding the preparation of tomato samples for this kind of study (Vilhena et al. 2015). Therefore, these authors have analyzed the four main protocols available, observing large differences regarding protein extraction. They further point out that these techniques might also be applied to other plant species such as eggplant and pepper.

It has become general knowledge that the Amazon tropical forest is very important regarding world biodiversity and carbon cycle (e.g., Clark 2004), and there have been several attempts to understand how the landscape has evolved over time, particularly regarding changes in floristic composition (e.g., Castro et al. 2013). On the other hand, it is also well-known that the progression of the savannization has a long-lasting impact in the area (e.g., Senna et al. 2014). In a very interesting study, Maria E.N.S. Meneses and colleagues have analyzed the environmental changes for over 1000 years of the Amazon forest located in the state of Roraima (Meneses et al. 2015). Using multiple lines of evidence such as geochemistry and palinological data from three different sediment cores, these authors were able to establish the vegetation dynamic in the last millennium in this region, providing some explanations on how the current sharp boundaries between the forest and savanna ecosystems have been maintained.

Dolphins comprise a group of Cetacean mammals fully adapted to an aquatic lifestyle and are observed quite frequently along the Brazilian coast (e.g., Cremer et al. 2013). Economic activity regarding these animals has been growing, with some being used even in the tourism industry (e.g., Alves et al. 2013). It is therefore quite remarkable that numerous aspects of the reproductive morphology of several species of these cetaceans remain unknown, particularly regarding *Sotolia guianensis* van Bénéden, 1864. Also known as the Goiana dolphin, this species is considered the most common dolphin in the Atlantic Ocean.

Some reproductive aspects of dolphins in general were obtained through macroscopic observations (e.g., Ramos et al. 2000, Katsumata 2010), but studies addressing the microscopic anatomy of their reproductive organs are scarce (Becegato et al. 2015). In order to contribute to a better understanding of the reproductive morphology of the Guiana dolphin, Estella Z. Becegato and colleagues have analyzed histological tissues collected from female genital tract of specimens that were found stranded in the state of Sergipe, northeastern Brazil. The animals used in their study belong of different ages when they died. Although most of the histological structures observed are similar to the ones reported in terrestrial mammals, Becegato et al. (2015) found some differentiated cells is some parts of the reproductive system that had not been reported in cetaceous before.

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