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EDITORIAL NOTE

New parasite in a coprolite of 240 million years, biogeography of fossil coelacanths, and the influence of air pollutants in a coastal area of northeastern Brazil

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The present issue of the *Annals of the Brazilian Academy of Sciences* (AABC) publishes several papers on paleontology. Among them is the study of Priscilla da Silva (Fundação Oswaldo Cruz) and colleagues who have made quite an interesting discovery: a new parasite in a coprolite of 240 million years (Da Silva et al. 2014). Coprolites or fossilized feces are not particularly rare, being constantly recovered during paleontological excavations, for all in areas that represent ancient shallow seas, lagoons or lakes (e.g., Vila Nova et al. 2011), where often they can be the most common fossil found. Occasionally they are also found in terrestrial environments (Souto 2000). Nevertheless they are not very commonly reported upon, possibly due to the fact that it is very hard to be sure which kind of animal produced them. Notwithstanding, it is quite an important material to be studied since they provide some important information regarding an animal´s diet.

In the case of the specimen studied by Da-Silva and colleagues, they could attribute a coprolite to a primitive herbivorous cynodont, even though they were not able to precise which species. The material was recovered from layers of the Triassic Santa Maria Formation in Rio Grande do Sul at a site called Cortado. Being perhaps one of the few cases of a primitive cynodont coprolite, the most important aspect of this discovery was the identification of parasite eggs that the authors have attributed to a new ascarid species. It would be interesting to proceed with this kind of study in other coprolites of the Santa Maria Formation that might reveal more of such parasite, and try to establish if it was endemic to this region of southern Brazil during this geologic period.

Another interesting contribution published in the present issue of the AABC is on the distributional pattern of an extinct group of coelacanths. This group of lobe-finned fishes is presently represented by only two species found in the coastline of the Indian Ocean and Indonesia (Holder et al. 1999), but in deep time they showed quite some diversity (Johanson et al. 2006, Miguel et al. 2014). Raphael Miguel (Universidade do Estado do Rio de Janeiro) and colleagues have reviewed the distribution of the extinct coelacanth group called Mawsoniidae. Although known since the Triassic, those fishes are particularly common in Cretaceous deposits (Miguel et al. 2014). Biogeographic studies are quite interesting since they can help explain why the

organisms are where they are (e.g., Gallo et al. 2013). In this particular contribution, Miguel and colleagues have found evidences that the break up of the continents which started in the Triassic might have played a major rule in the distributions of those fishes.

Lastly, I would like to call attention to the paper by Stelyus Mkoma (Instituto Nacional de Ciência e Tecnologia de Energia e Ambiente/INCT-E&A, Salvador) and colleagues, on the effect of air pollutants on the atmosphere of coastal areas close to large urban centers. Recently the AABC published some quite interesting papers on different kinds of pollution that occur in distinct areas (e.g., Lacerda et al. 2012, Silva et al. 2012, Fonseca et al. 2013, Hermes et al. 2013). Mkoma et al. (2014) have studied major ion species in order to establish the degree in which the emission of pollutants have affected the atmosphere on the coast of the Baía de Todos os Santos, in Salvador, northeastern Brazil (Mkoma et al. 2014). As has been pointed out before, the concentration of ionic species could affect the quality of the nearby ecosystem and consequently, human health (He and Balasubramanian 2008). In a very comprehensive study, Mkoma and colleagues have shown the main sources for particle dry deposition and established that it formed a very important mechanism representing air-to-sea fluxes of major ions species. The cover of the present issue is dedicated to their study.

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