



PERSPECTIVE



Perspective on the Role of Academic Journals on Scientific Colonialism in Paleontology

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ABSTRACT

Academic journals have developed policies that globally regulate the specific protocols that must be followed when using sensitive medical, biological, chemical, and genetic data in research. Yet, paleontological material seems to be excluded. We performed a submission policy search to test the extent of this legal gap in light of colonialism. Results show that, even though most journals adhere to broad ethical guidelines, they do not systematically provide information regarding fossil permits and specifications on their collection and storage, as well as other relevant data ($N = 108$, > 80% in Asia and North America, > 65% in Europe and Latin America). This problem impacts educational, economical, and scientific development, perpetuates illegal trafficking, and boosts scientific colonialism. It is necessary to implement a mandatory policy for fossil handling, including ethical and legal management in the submission guidelines of journals, and to request that this information is included in materials and method sections.

KEYWORDS

Colonial paleontology; fossil legislation; geoheritage; academic colonialism; ethics

Galtung (1967) defined scientific colonialism as “that process whereby the center of gravity for the acquisition of knowledge about the nation is located outside the nation itself.” In such cases, the production, transmission, and organization of knowledge are globally controlled by foreign scholars, who are the ones generating the disciplinary standards, fixing theories, forging the dominant ideas, and gaining international status, leaving locals outside of what could have been a virtuous scientific and local development (Alatas 2003; Shih 2010; Heilbron, Guilhot, and Laurent 2008).

Recent studies have highlighted the importance of decolonizing paleontology, presenting scenarios where this issue becomes evident. For instance, Cisneros et al. (2021) stressed the many problems arising from the exportation of a fossil dinosaur from Brazil unofficially named “*Ubirajara jubatus*,” which was removed from publication because of its controversial exportation to Germany. The State Museum of Natural History Karlsruhe (SMNK) insisted on keeping its ownership, by declaring legal subterfuges and denying the existence

of Brazilian rights to its national heritage, which has ended up encouraging illegal fossil dealing (Lenharo and Rodrigues 2022). Furthermore, Cisneros et al. (2022) presented compelling evidence on Mexican and Brazilian fossils that are “unethically and/or irregularly acquired and/or exported” despite clear laws establishing protocols that are protective of local scientific development.

Valenzuela-Toro and Viglino (2021) also detailed how cumulative barriers of under-represented groups are diminishing scientific development (funding, cultural barriers, lack of access, language difficulties, and gender bias) and provided some ideas on how to lower this impact. Raja et al. (2022) even found that colonial history and the availability of money are generating a sampling bias in the fossil record that is distorting our interpretations of past biodiversity. These analyses clearly show that inequality suffered by scientists and scientific data is indeed restricting the development of science itself.

Colonialism in geosciences in general and in paleontology in particular is an ongoing set of relations that still