

Not a Toothless Law. Countering Illicit Fossil Trafficking under Regulation (EU) 2019/880

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Abstract: On 27 January 2025, French customs seized nine fossilized teeth from Morocco in transit to Italy. This case study discusses the legal framework for the seizure and evaluates it in light of European Council Regulation 2019/880 and French domestic law. Moreover, it problematizes the determination of the fossils' origin and the blurred distinction between paleontology and archaeology and examines their implications for the regulation of the illicit fossil trade. Despite their structural similarities with undocumented antiquities, fossils are not covered by the licensing scheme under Article 4. Regulation 2019/880 still allows EU Member States to enforce Morocco's export restrictions but seizures such as this one might require fossil market actors to change established practices.

Keywords: fossil; Regulation 2019/880; illicit trafficking; France; Morocco

Introduction

The existence of a substantial illicit trade in antiquities is well-known, even though its volume is often wrongly assessed.¹ The illicit market for paleontological objects, however, is less known, yet the fossils of dinosaurs and other extinct creatures are unlawfully excavated, smuggled, and sold abroad.² Such practices are harmful, not only to local communities and researchers in the countries of origin but also to science in general.³ Accordingly, efforts continue to be made to curb the illicit trade in paleontological objects. This case study reviews a recent seizure of Moroccan fossils in

France,⁴ discusses the legal framework that seizure was conducted in, and considers its implications for the fossil market more broadly.

The seizure demonstrates important synergies between Moroccan export restrictions regarding paleontological objects and the rules on the import of cultural property at the European and domestic French levels. At the same time, it reveals a certain confusion about the distinction between paleontological objects and archaeological artifacts, both at the legislative and the law enforcement level. This lack of clarity entails the risk of prejudicing the appropriate implementation of the relevant legal protection. To this end, more paleontological expertise will prove essential.

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- 1 Donna Yates / Neil Brodie: The Illicit Trade in Antiquities is not the World's Third-largest Illicit Trade: A Critical Evaluation of a Factoid, in: *Antiquity* 97 (2023), No. 394, 991-1003.
 - 2 Nussaibah B. Raja / Emma Dunne: Fossil Trafficking, Fraud, and Fakery, in: Donna Yates / Naomi Oosterman (eds.): *Art Crime in Context*, Cham 2022, 61-79.
 - 3 Juan Carlos Cisneros et al.: Digging deeper into colonial palaeontological practices in modern day Mexico and Brazil, in: *Royal Society Open Science* 9 (2022), No. 3, DOI: <https://doi.org/10.1098/rsos.210898>.

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- 4 Morocco is among the most important source countries for the fossil trade, see: Juan Carlos Gutiérrez-Marco / Diego C. García-Bellido: The international fossil trade from the Paleozoic of the Anti-Atlas, Morocco, in: Aaron W. Hunter et al. (eds.): *The Great Ordovician Biodiversification Event: Insights from the Tafilalt Biota, Morocco*, London 2022, 69-96.

Facts

On 27 January 2025, French customs officials stopped a Spanish truck on the A8 highway in Southern France.⁵ Such routine controls are common in the area to prevent drug trafficking. While searching the lorry, the officials discovered two hidden parcels which turned out to contain a total of nine fossilized teeth that were to be delivered to individuals living in or around Genoa and Milan, Italy. Concerned about the authenticity of the artifacts, the customs officials contacted the Musée de Préhistoire Régionale in the nearby city of Menton and consulted a resident paleontologist to ascertain the authenticity and provenance of the specimens.⁶ His findings were announced on 14 February 2025: he had come to the conclusion that all the fossils had come from Morocco and belonged to different species of extinct organisms. He attributed three teeth to *Mosasaurus* (an extinct genus of marine lizard), another five to *Dyrosaurus phosphaticus* (an extinct relative of the crocodiles), and one to an extinct marine reptile named *Zarafasaura oceanis*.⁷ The authorities announced that they will be working towards the identification of the recipients of the parcels and are in the process of determining the further cause of action.⁸

Legal Framework of the Seizure

From press reports and the public release by French customs, it is not fully evident on what legal grounds the French authorities seized the fossils. The only relevant official statement considers

that “these archaeological goods require supporting documentation for their import, possession, and circulation which the driver could not provide.”⁹ This section describes how this position can be read in the context of cultural property law at the European and domestic French levels.

EU Regulation 2019/880

A long-standing challenge to the enforcement of legislation protecting cultural property has been the recognition of export restriction laws in foreign jurisdictions. As a general rule, the principle of sovereign equality in international law entails that no state can be compelled to enforce the public law of another state,¹⁰ and export restriction laws are of such a nature.¹¹ There are multiple instances where courts hearing a cultural property restitution claim filed by a foreign government have refused to enforce a foreign export restriction law and thus did not order the return of the artifacts in question.¹² At the level of the European Union (EU), Regulation 2019/880 mitigates this challenge. Its Article 3(1) explicitly prohibits introducing into the EU customs territory cultural goods “which were removed from the territory of the country where they were created or discovered in breach of the laws and regulations of that country”.¹³ This prohibition applies to the categories of cultural goods listed in Part A of the Annex to the Regulation, which is based on the definition of cultural property in Article 1 of the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of

5 Direction générale des douanes et droits indirects: Les douaniers de Menton découvrent des dents de dinosaures dans un camion du fret express, in: Portail de la Direction Générale des Douanes et Droits Indirects, <https://web.archive.org/web/20250217224732/https://www.douane.gouv.fr/actualites/les-douaniers-de-menton-decouvrent-des-dents-de-dinosaures-dans-un-camion-du-fret>, <18.03.2025>.

6 Emma Dehoey: Des dents de dinosaures et de crocodiles découvertes par des douaniers de Menton, in: ici, le média de la vie locale, <https://web.archive.org/web/20250220161131/https://www.francebleu.fr/infos/insolite/des-dents-de-dinosaures-et-de-crocodiles-decouvertes-par-des-douaniers-de-menton-3647400>, <20.02.2025>.

7 AFP: Alpes-Maritimes: Neuf dents de dinosaures en provenance du Maroc saisies par les douaniers de Menton, in: Le Figaro, 14 February 2025, <https://web.archive.org/web/20250425215720/https://www.lefigaro.fr/nice/alpes-maritimes-neuf-dents-de-dinosaures-en-provenance-du-maroc-saisies-par-les-douaniers-de-menton-20250214>, <20.02.2025>.

8 Direction générale des douanes et droits indirects 2025 (see FN 5).

9 Author's translation, the French original reads: “Ces biens archéologiques sont soumis à justificatifs d'importation, de détention, et de circulation, que le chauffeur ne peut produire”. Direction générale des douanes et droits indirects 2025 (see FN 5).

10 Hans W. Baade: The Operation of Foreign Public Law, in: Texas International Law Journal 30 (1995), No. 3, 429-498.

11 Sophie Vigneron: Protecting Cultural Objects: Enforcing the Illicit Export of Foreign Cultural Objects, in: Valentina Vadi / Hildegard E. G. S. Schneider (eds.): Art, Cultural Heritage and the Market: Ethical and Legal Issues, Berlin / Heidelberg 2014, 117-139.

12 For one example of many see *Government of Peru v. Johnson*, 720 F. Supp. 810 (C.D. Calif. 1989), affirmed in 993 F.2d 1013 (9th Cir. 1991). In addition to the issue of the reliance on a ‘mere’ export restriction law, Peru was also unable to convincingly show that the objects in question had come from its territory instead of that of a neighbouring country. For a more thorough discussion of the issue of origin see below.

13 Article 3(1) of Regulation (EU) 2019/880 of the European Parliament and of the Council of 17 April 2019 on the introduction and the import of cultural goods [2019] OJ L151, 1-14.

Ownership of Cultural Property¹⁴ and slightly modifies it.¹⁵ Importantly, “objects of palaeontological interest” are covered by Part A. Pursuant to Article 16(2)(a), this provision began to apply on 28 December 2020.

The remaining core provisions of Regulation 2019/880 began to apply on 28 June 2025 as per Article 16(2)(b). The first of them, Article 4(1), requires an import license for products of archaeological excavations or discoveries and elements of dismembered historical monuments or archaeological sites (if they are more than 250 years old). Applications for such an import license should contain documentation which provides evidence of the lawful export from the country of origin, pursuant to Article 4(3). Here, the burden of proof to demonstrate this is on the importer.¹⁶ Finally, Article 5(1) provides that an importer statement must be made to the authorities when importing cultural goods that belong to one of the categories listed in Part C (which include “rare collections and specimens of fauna, flora, minerals and anatomy, and objects of palaeontological interest”), are older than 200 years, and have a customs value of 18.000 EUR or more per item. EU Member States must punish infringements against the Regulation (Article 11 Regulation 2019/880). Accordingly, Article 414 of the French Customs Code provides prison sentences of up to three years and confiscation as penalties.

What sense can we make of the statement made by the French customs authorities about their motive for the seizure of the fossils in the light of Regulation 2019/880? First, the fossil teeth fall, in all likelihood, outside the scope of Article 5 of the Regulation because they do not meet the value threshold. That leaves open two possibilities: first, that the customs authorities considered the fossils to be archaeological finds within the meaning of

Article 4(1), for which an import license is mandatory; and second, that the customs authorities considered them to have been unlawfully exported from Morocco and thus to fall under Article 3(1).

The wording of the press release which calls the fossils “archaeological goods” seems to point towards the former alternative. This classification seems puzzling if, following a textual interpretation, one considers the ordinary meaning of ‘archaeological’ which relates to “the study of past peoples, societies, and cultures” and is thus inextricably linked to human history.¹⁷ The present instance concerns the fossilized remains of organisms that lived at least 40 million years before the emergence of even the earliest human ancestors. As such, they clearly are not ‘archaeological’ in nature. Instead, they belong to the realm of paleontology, commonly understood as the “branch of sciences that deals with [...] evidence of organic life during the geological past”.¹⁸ In addition to this textual perspective, a systematic argument is to be made. The Annex to Regulation 2019/880 unmistakably distinguishes between paleontology and archaeology in Parts A, which lists palaeontological objects as a separate category under (a) while archaeological artifacts appear in separate sections (c) and (d). Part B repeats these latter two sections while section (a) is placed in Part C. All of this suggests that the reference to “products of archaeological excavations”, i.e. Part B(c), is not to be understood as including fossils.

Admittedly, the conflation between archaeology and paleontology is a widespread phenomenon.¹⁹ This is sometimes also brought as a criticism against cultural property legislation that insufficiently differentiates between paleontological and archaeological heritage.²⁰ That the French Heritage Code extensively regulates archaeology but hardly contains any provisions regarding paleontological objects is certainly not conducive to a

14 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property of 14 November 1970 (entry into force: 24 April 1972), 823 UNTS 231.

15 Anna M. de Jong: The Cultural Goods Import Regime of Regulation (EU) 2019/880: Four Potential Pitfalls, in: *Santander Art and Culture Law Review* 7 (2021), No. 2, 31-50; Hanna Schreiber: Regulation (EU) 2019/880 and the 1970 UNESCO Convention – A Note on the Interplay between the EU and UNESCO Import Regimes, in: *Santander Art and Culture Law Review* 7 (2021), No. 2, 173-182.

16 Tamás Szabados: The EU Regulation on the Import of Cultural Goods: A Paradigm Shift in EU Cultural Property Legislation?, in: *Croatian Yearbook of European Law & Policy* 18 (2022), No. 1, 1-23.

17 Oxford English Dictionary, “archaeology (n.),” December 2023, DOI: <https://doi.org/10.1093/OED/1002446923>.

18 Oxford English Dictionary, “palaeontology | paleontology (n.),” June 2024, DOI: <https://doi.org/10.1093/OED/1108590004>.

19 Neil Donald Lewis Clark: The public perception of palaeontology in Scotland: “Archaeologists dig dinosaurs”, in: Janet Trythall (ed.): *Sea to Sand: Proceedings of the 2007 Moray Society Conference*, Elgin 2008, 38-48, <https://eprints.gla.ac.uk/7692/<09.10.2025>>.

20 Wilson J. Wall: *Investigating Fossils: A History of Palaeontology*, Hoboken 2021, 193-194.

clear-cut distinction in practice, either. None of this, however, takes away from the fact that Article 4(1) provides an insufficient basis for a seizure of fossils which, in fact, are not archaeological objects.

The second option, namely the application of Article 3(1) which governs unlawfully exported cultural assets, provides more definitional clarity: this provision expressly includes fossils in its scope. Accordingly, a seizure would be justified only in the absence of sufficient documentation that the fossils' export from Morocco was lawful. That, in turn, begs the question what requirements Moroccan law provides for the export of fossils. In general, the country's cultural heritage legislation is somewhat narrow and does not cover paleontological objects although attempts are currently underway to draft new legislation which promises to change this through a unified approach that combines a broad range of heritage categories into one instrument.²¹ Currently, we find the applicable law on fossils in the 2015 Mining Code;²² its Article 116 provides that permits are required for the extraction, collection, and commercialization of fossils, meteorites, and mineralogical specimens.²³ An application decree adopted in 2019 further specifies the procedures relating to these permits.²⁴ In order to find a genuine export restriction, however, we have to look to Decree 1308-94, which was adopted in 1994 and provides a list of goods that are subject to quantitative import and export restrictions.²⁵

This list includes paleontological objects, among other items, under customs nomenclature number 97.05.00.²⁶

The adoption of this decree predates Morocco's ratification of the 1970 UNESCO Convention in 2003 by almost ten years. As such, it anticipates the obligation on all States Parties to create and enforce a system of export certificates for cultural property under Article 6 1970 UNESCO Convention. With the entry into force of Regulation 2019/880 and the commencement of the application of its Article 3(1), EU Member States can now finally enforce this export restriction.²⁷ As such, Article 3(1) closes an important gap with respect to fossils. First, because the regime which Article 4(1) creates is inapplicable to paleontological objects. Second, because Article 7(b)(ii) 1970 UNESCO Convention (the key provision on the recovery of cultural property) is arguably too narrow in its scope to cover the proceeds of clandestine excavations. The fossilized teeth in question seem to originate from such an excavation. Therefore, they most likely do not qualify as items which have been "stolen from a museum or a religious or secular public monument or similar institution" (Article 7(b)(ii) 1970 UNESCO Convention). The only specific legal basis for restitution in the 1970 UNESCO Convention is therefore unavailable.

French Legislation

By virtue of the primacy of EU law over domestic law,²⁸ Regulation 2019/880 now prevails over the law of Member States with respect to the import of cultural property. Still, its core provisions have begun to apply only fairly recently, and it is anything but difficult to imagine a situation where fossils from Morocco (or another country that restricts their export) were brought unlawfully to France before Regulation 2019/880 entered into force. Such scenarios make it worthwhile to reflect on how French law would have treated the current situation had it occurred a few years earlier.

21 Hicham Oukerzaz: Protection du patrimoine : que prévoit le projet de loi n° 33.22 ?, in: Hespress Français – Actualités du Maroc, <https://web.archive.org/web/20250527075207/https://fr.hespress.com/405173-protection-du-patrimoine-que-prevoit-le-projet-de-loi-n-33-22.html>, <24.02.2025>.

22 Loi n°33-13 relative aux mines, Bulletin Officiel n°6384 du 6 août 2015.

23 The full provision reads: "L'extraction, la collecte et la commercialisation des spécimens minéralogiques et fossiles et des météorites sont subordonnés à l'octroi d'une autorisation délivrée par l'administration, selon les modalités fixées par voie réglementaire."

24 For an English translation see: Hasnaa Chennaoui Aoudjehane: An overview of the new Moroccan regulation on collection and export of meteorites: A geoheritage to promote and preserve, in: Meteoritics & Planetary Science 59 (2024), No. 2, 368-381, here: 6.

25 Arrêté du ministre du commerce extérieur, des investissements extérieurs et de l'artisanat n°1308-94 du 7 kaada 1414 (19 avril 1994) fixant la liste des marchandises faisant l'objet des mesures des restrictions quantitatives à l'importation et à l'exportation, Bulletin Officiel n°4262 du 6 juillet 1994.

26 The exact wording reads: "Collections et spécimens pour collections de zoologie et de botanique, de minéralogie et d'anatomie, objets pour collections présentant un intérêt historique, archéologique, paléontologique et ethnographique et numismatique".

27 On the interaction between Regulation 2019/880 and the 1970 UNESCO Convention, see: Schreiber 2021 (see FN 15).

28 Judgment of the Court of 15 July 1964, *Flaminio Costa v ENEL*, Case 6/64, ECLI:EU:C:1964:66.

The centerpiece of French cultural property legislation is the Heritage Code,²⁹ an instrument that extensively regulates cultural heritage, archives, libraries, museums, archaeology, monuments, and sites. While archaeology is among the major areas of regulation within the Code, paleontological objects only assume an ancillary role: Article R123-2 extends the French government's right of pre-emption to palaeontological collections, and if their value exceeds 50.000 EUR, their export is only possible upon authorization (Article R111-1). Nonetheless, Article L111-8 bans the import of cultural property that was unlawfully exported from a non-EU Member State and refers to Article 1 of the 1970 UNESCO Convention whose scope includes palaeontological objects.³⁰

The importance of Article R111-8 becomes evident from a number of judgments by French courts concerning seized fossils between 2017 and 2022. In 2013, French customs officials discovered fossils hidden on the bottom of barrels when controlling a Brazilian vessel arriving in Le Havre. These fossils were destined for Eldonia, a French fossil dealing company, and a search in the facilities of an associated fossil dealer, Creazaurus, resulted in the seizure of altogether 260 fossils of dinosaurs, reptiles, and fishes that had come from Brazil, China, Madagascar, and Mongolia. The owners of Eldonia were charged, *inter alia*, with criminal conspiracy, the possession of national treasures and cultural property without proper documentation, customs infractions, and concealment. Eldonia brought legal action against the seizure.

The Lyon Appeals Court rejected their appeal on 6 October 2017, but the Court of Cassation in Paris ultimately repealed and annulled this decision on 12 September 2018. It agreed with the Lyon Appeals Court in rejecting the appellants' argument that fossils would fall outside the scope of cultural property legislation. However, the Court of Cassation found that the lower courts had disregarded the principle of legality (see also Article 7(1) of the

European Convention on Human Rights).³¹ According to this principle, no one shall be held guilty of any criminal offence on account of any act or omission which did not constitute a criminal offence under national or international law at the time when it was committed. In this instance, Article R111-8 had entered into force on 9 July 2016, which was after the relevant acts subject to criminal prosecution. In absence of a legal basis at the relevant point in time, the Court of Cassation sent the case back to a different court of appeal (Riom).³² Litigation continued, and on 23 February 2022, the Court of Cassation brought a final resolution to the dispute by ordering the return of the seized specimens to the fossil dealer, apart from a pterosaur specimen which had already been repatriated to Brazil.³³ This overview provides substantial evidence that Article R111-8 could be a valuable legal basis for enforcement action that includes the seizure of unlawfully exported fossils which entered France prior to Regulation 2019/80 entering into force and beginning to apply.

Authenticity and Origin

Moreover, the case of the seizure invites discussing the matters of authenticity and origin in the context of paleontological objects. Litigation that pursues the return of archaeological artifacts regularly faces the challenge of having to demonstrate that the object in question is authentic, and that was, in fact, first discovered on the territory of the state claiming it. In a case before the Regional Court Munich I in 2016, Peru successfully achieved the return of a golden mask after proving that it was authentic, *inter alia*, through expert opinions by archaeologists and physical-chemical analyses.³⁴ How the proof of origin can complicate a restitution effort becomes clear from the case of the Sevso treasure, a late-Roman silver and copper hoard which appeared on the market with an

29 Code du patrimoine du 20 février 2004, https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006074236, <30.09.2025>.

30 Paul P. Stewens / Nussaibah B. Raja / Emma M. Dunne: The Return of Fossils Removed Under Colonial Rule, in: *Santander Art and Culture Law Review* 8 (2022), No. 2, 89-114.

31 Convention for the Protection of Human Rights and Fundamental Freedoms of 4 November 1950 (entry into force: 3 September 1953), ETS No. 005.

32 Cour de cassation, Chambre criminelle, 12 septembre 2018, 17-87.510, ECLI:FR:CCASS:2018:CR01926.

33 Cour de cassation, Chambre criminelle, 23 février 2022, 21-82.588, ECLI:FR:CCASS:2022:CR00248.

34 Landgericht [Provincial Court] Munich I, Decision of 15.12.2016, Az. 6 O 18699/06, BeckRS 2016, 117681.

unclear provenance. Multiple states claimed that the treasure had been found on their territory but none could provide sufficient evidence to that end in court.³⁵ There is even an instance of fossil-related litigation that touches upon proof of origin. In a forfeiture action brought by Mongolia before a U.S. court for the skull of a *Tarbosaurus bataar*, the court sustained the request because discoveries of that species of dinosaur were common in Mongolia and no other specimens had ever been discovered outside its territory.³⁶

In the present case, both the authenticity and the origin of the fossils, for the purpose of the seizure at least, were subject to an expert opinion provided by a paleontologist at the Musée de Préhistoire Régionale the content of which is not publicly available; only the findings were announced to the public. This leaves open some questions with respect to the determination of the origin of the teeth since the expert's reasoning for the conclusion that the fossils are of Moroccan origin do not become transparent. Towards *Agence France Presse*, he highlighted the “characteristic fossilisation and sedimentation” of Moroccan fossils³⁷ but appears to have tied the determination of origin to the species identification he performed: all three organisms to which he attributed the teeth are reported to have been present in what is now Morocco millions of years ago. In geographic terms, this is true: the range of *Z. oceanis*, the mosasaurs, and *D. phosphaticus* included modern-day Morocco. However, *Zarafasaura* is the only of the three that is exclusively known from fossils found in Morocco.³⁸ Mosasaur fossils have been found on all continents other than Antarctica,³⁹ and fossil remains of

D. phosphaticus are known from Morocco as well as Algeria and Tunisia.⁴⁰ Put differently, attributing teeth to these two species (or rather group of species, in the case of the mosasaurs) does not necessarily mean that they originated from Morocco; this is only true for *Z. oceanis*.

Whether a single tooth could be reliably attributed to *Z. oceanis* seems, however, doubtful. This species was only described in 2011 based on a skull and a mandible with only a few original teeth being preserved that “exhibit the general plesiosaurid morphology”.⁴¹ The plesiosaurs were a clade of marine reptiles that lived alongside the dinosaurs for about 140 million years. Their fossils have been discovered all around the globe; there are four known species of plesiosaur from Morocco alone.⁴² Even within the more fine-grained taxonomic group of the elasmosaurs (a family within the plesiosaur group) to which *Z. oceanis* belongs, it is only one of two species that have been described from Moroccan fossil material.⁴³ The teeth of the elasmosaurs, in turn, were “distinctive amongst plesiosaurians in their elongate tapered profile”.⁴⁴

It follows that there are significant similarities among the teeth of different plesiosaurs, and even more so among elasmosaurs. Moreover, there are many different species of plesiosaurs and elasmosaurs both in Morocco and across the world. Consequently, attributing a tooth to one of these larger groups would be insufficient proof of its country of origin. Even if it was known a priori that the fossil came from Morocco, the fact of it being a plesiosaur/elasmosaur tooth would not permit the attribution specifically to *Z. oceanis*. Since the consulted expert refrained from assigning a concrete species to the three confiscated mosasaur teeth, it is not evident why he considered such specificity appropriate for a single plesiosaur tooth.

35 *Republic of Croatia v. The Trustee of the Marquess of Northampton* 1987 Settlement, 610 N.Y.S.2d 263 (1st Dept. 1994), appeal denied, 642 N.E.2d 325 (1994).

36 *United States v. One Fossilized Tyrannosaurus Bataar Skull*, 365 F. Supp. 3d 759 (N.D. Tex. 2018), 767.

37 AFP: Entre fascination et commerce illégal, les fossiles de dinosaures au cœur d'une ruée vers l'os, in: *Le Figaro*, 1 March 2025, <https://web.archive.org/web/20250524171214/https://www.lefigaro.fr/culture/entre-fascination-et-commerce-illegal-les-fossiles-de-dinosaures-au-coeur-d-une-ruée-vers-l-os-20250301>, <07.03.2025>.

38 Peggy Vincent et al.: *Zarafasaura Oceanis*, a new elasmosaurid (Reptilia: Sauropterygia) from the Maastrichtian Phosphates of Morocco and the palaeobiogeography of latest Cretaceous plesiosaurs, in: *Gondwana Research* 19 (2011), No. 4, DOI: <https://doi.org/10.1016/j.gr.2010.10.005>, 1062-1073.

39 Michael J. Polcyn et al.: Physical drivers of mosasaur evolution, in: *Palaeogeography, Palaeoclimatology, Palaeoecology* 400 (2014), DOI: <https://doi.org/10.1016/j.palaeo.2013.05.018>, 17-27, here: 20.

40 Stéphane Jouve: A new description of the skull of *Dyrosaurus Phosphaticus* (Thomas, 1893) (Mesoeucrocodylia: Dyrosauridae) from the Lower Eocene of North Africa, in: *Canadian Journal of Earth Sciences* 42 (2005), No. 3, DOI: <https://doi.org/10.1139/e05-008>, 323-337.

41 Vincent et al. 2011 (see FN 38), 1070.

42 Vincent et al. 2011 (see FN 38).

43 The other one is *Libonectes atlasense*.

44 Benjamin P. Kear et al.: Exceptionally prolonged tooth formation in elasmosaurid plesiosaurians, in: *PLOS ONE* 12 (2017), No. 2, DOI: <https://doi.org/10.1371/journal.pone.0172759>, 1-14, here: 2.

Anyway, if the species identification is correct, Morocco must necessarily be the country of origin only for *Z. oceanis*; the mosasaur teeth could have come from almost anywhere in the world, and the *D. phosphaticus* teeth could also have been found somewhere else in North Africa. That all the teeth were shipped together seems to be insufficient proof that they were found in the same territory, and whether a reliable identification of *Z. oceanis* based on a single tooth without assuming a priori that the fossil came from Morocco (which is precisely the point in question) appears doubtful as well.

This leaves the impression of a certain circularity underlying the determination of origin of the seized fossils. The species identification would seem reasonably reliable if there had been circumstantial/contextual evidence (e.g., in the parcels) that the fossils came from Morocco. However, if that had been the principal basis for the species' identification and thus the determination of their origin, then the latter would only complement the contextual evidence by confirming that such fossils could, in principle, have been found in the suspected territory of origin. Consequently, if the fossil dealer or the purchasers in Italy were to legally challenge the seizure of the fossils, these doubts would certainly need to be addressed.

This is not to dispute the conclusions of the expert opinion per se; it might very well be the case that some or all of these fossils did originate from Morocco after all. Rather, the point in question is how reliably, how scientifically sound such an identification can be performed in circumstances such as these. The case of the fossilized teeth stands pars pro toto for many situations where customs agents seize items and have to consult a locally available expert under strict time constraints – and it illustrates the potential for tensions between the need of law enforcement for clear answers, and the intricacies of a scientific assessment.

Conclusion

The present case highlights the issues that often-times arise from the particular, ambiguous nature of fossils that challenges clear-cut legal categorization. Here, it is particularly the delimitation between archaeology and paleontology that causes complications. At the legislative level, Regulation

2019/880 creates a special licensing regime for archaeological objects that makes explicit reference to both regular and clandestine excavations (Article 4 in conjunction with Annex, Part B). Irrespective of the damage that unlawful excavations cause to the paleontological heritage,⁴⁵ paleontological objects fall outside the scope of this regime. The structural similarities between archaeology and paleontology with respect to the illicit provenance of artefacts appear to have been overlooked in the drafting of Regulation 2019/880. At the same time and on the enforcement level, French customs authorities have issued statements that clearly conflate archaeology and paleontology, leading officials to intervene in the fossil trade in a manner for which the relevant legislation might not necessarily provide. With respect to fossils, the strength of Regulation 2019/880 lies in Articles 3(1) and 5. These provisions allow EU Member States to enforce Morocco's export restriction for fossils, and subject particularly valuable fossils to an import licensing requirement, respectively.

And yet, the actions of the French customs authorities have the potential to cause upheaval on the fossil market. If applied consistently by European customs officials, the rules on the import of cultural property (including fossils) will require substantial changes to the conduct of market actors. Structurally speaking, there is currently no established practice of presenting provenance records, export authorizations etc. on the fossil market. Buyers do not usually require such documentation, and dealers do not usually offer it. Since Regulation 2019/880 shifts the burden of proof to the importer of a cultural asset, dealers aiming to introduce fossils into the EU will have to significantly adjust their current practices to avoid seizures like the most recent one in France. These findings are subject to the developments that the near future will bring regarding Regulation 2019/880 (especially once all its provisions have begun to apply) and the reform of Morocco's heritage law. Nonetheless, they put a spotlight on the issues that warrant close attention as the onset of structural changes might be imminent.

45 Cisneros et al. 2022 (see FN 3).

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Reference

Paul P. Stewens: Not a Toothless Law. Countering Illicit Fossil Trafficking under Regulation (EU) 2019/880, in: *transfer* – Zeitschrift für Provenienzforschung und Sammlungsgeschichte / Journal for Provenance Research and the History of Collection 4 (2025), DOI: <https://doi.org/10.48640/tf.2025.1.113827>, 165-172.