

ON THE HISTORY OF A MEXICAN PALEONTOLOGICAL COLLECTION

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Introduction

The Universidad Nacional Autónoma de México through the Instituto de Geología, shelters the oldest and most representative fossil collections in Mexico, the Colección Nacional de Paleontología (CNP). Despite being an emblematic Mexican collection, little is known about its development. We aim to briefly describe its evolution until modern times with a critical exercise about the future.

The first specimens

Recently found in CNP cabinets, the **oldest fossils** collected in Mexico deposited in CNP dates back to **1877-79**, which resulted from the explorations of the Geographical Survey (Fig. 1). Yet, no formal paleontological collections existed then.



Fig. 1. A. Logo of the Geographical Survey. B, C. Records of the Geographical Survey found with fossil specimens in CNP, collected during expeditions in Tabasco and Puebla.



Fig. 2. A. Records of the Geologic Survey found with fossil specimens in CNP. B, C. Building and cabinets of the IGM. D. Universidad Nacional Shield

In **1888**, the Mexican Geological Survey began collecting, describing, and mapping geologic and mineral resources, including fossils (Fig. 2A). It was the predecessor of the first geological research center in Latin America: the Instituto Geológico de México (IGM), a **governmental institution** (Morelos, 2022) (Fig. 2B,C).

In **1929**, the institution, including the collections, were incorporated to the **Universidad Nacional (UNAM)** (Fig. 2D). From then on, its name is **Instituto de Geología (IGI)**.

A formal collection

In 1977, **IGI** took its modern place on the campus (Fig. 3). This led to the first attempt to organize the fossil material collected throughout almost a century, drawing up the first regulations (1979 and 1988) for collections management (Fig. 3C). Before these documents, there is no record of how collections functioned.



Fig. 3. A. Modern building of IGI. B, C. Historic files of management of the CNP

In **2004**, with the recognition of the national character of the collections, the current document, **"Ma. Carmen Perrilliat Museum Regulations"** was put into effect. The Museum was named after Dr. Perrilliat, honoring her work as head of the Collection for nearly 30 years (Fig. 4).



Fig. 4. A. Dr. Perrilliat, B. commemorative plaque of the Collection, C. Cabinets of the CNP.

Modern technologies in CNP

The 2000 century brought new technology into the **CNP**. Now, daily tasks include data systematization, Darwin Core standards, 2D and 3D digitization, and, web portals (Fig. 5).

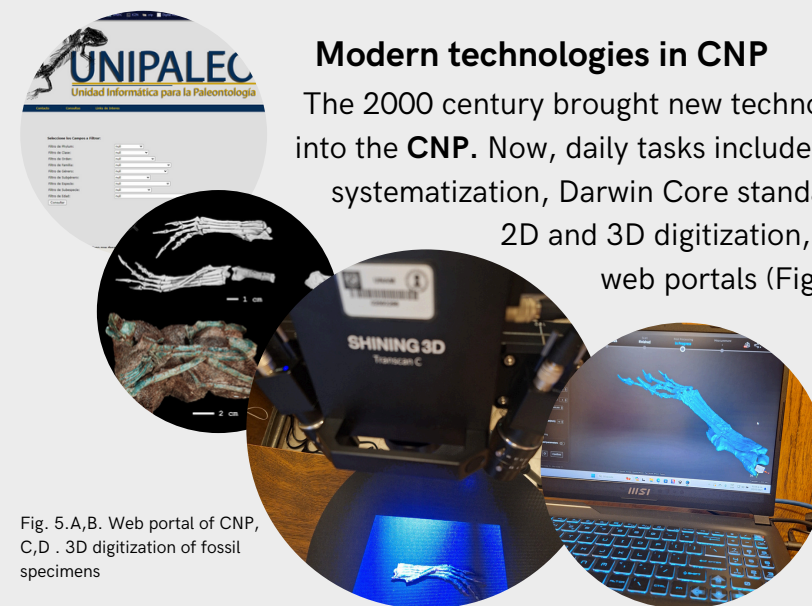


Fig. 5. A, B. Web portal of CNP, C, D. 3D digitization of fossil specimens

The future

After collecting records from databases, we found that in 47 years a total of 749 material access were processed. The mean of the period is 15 access/year. The number of specimens/access is variable: it can go from 1 to one hundred specimens; e.g. the Tlayúa Quarry in Puebla, Mex., an Albian Lagerstätten, has between 1-2 annual access with a mean of 100 specimens/access. In contrast, an access request of Type material could include one specimen. Even though these numbers are variable, we can estimate how collections will grow.

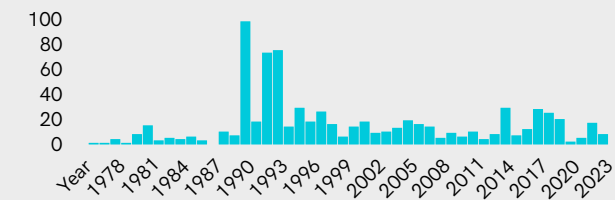
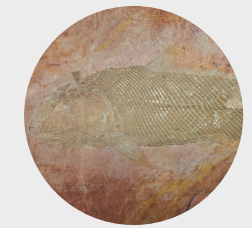


Fig. 6. A. No. access/year to CNP for the period 1976-2023. B. *Teioichthys kallistos*, from Tlayúa Quarry, Puebla



Collections continue to grow and we are improvising spaces and revisiting cabinets for space optimization, but this is a temporal solution (Fig. 7). Also, since the permanent staff are 2 persons, these tasks involve reducing time to pending tasks.

The collections do not have annual funding. We function under specific supply requests and, if it is approved, the request is completed 6 to 12 months later.



Fig. 7. Tlayúa Quarry fossils placed over cabinets

The CNP acquired digitization equipment through government institutions funding. The most recent acquisitions, two 3D scanners, were funded by Mexico City's government through an outreach project. These are great funding opportunity areas. However, basic functions and services of the CNP have to be covered and these should be supported by our institution. We have pending work to trace a path toward the achievement of better conditions for the **CNP**.

References

Morelos, 2022, La Sociedad Geológica Mexicana en sus primeros años (1904-1912). Bol. Soc. Geol. Mex 74(1).