



**HAL**  
open science

## Historic Emeralds from the Paris School of Mines

Eloise Gaillou

► **To cite this version:**

Eloise Gaillou. Historic Emeralds from the Paris School of Mines. 9th International Conference Mineralogy and Museums, Aug 2021, Sofia, Bulgaria. pp.37-38. hal-03615018

**HAL Id: hal-03615018**

**<https://hal.science/hal-03615018>**

Submitted on 21 Mar 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

# Historic Emeralds from the Paris School of Mines

Eloïse Gaillou<sup>1</sup>

<sup>1</sup>MINES ParisTech, PSL Research University, Musée de Minéralogie, 60 boulevard Saint-Michel, 75006 Paris, France; [eloise.gaillou@mines-paristech.fr](mailto:eloise.gaillou@mines-paristech.fr)

Since its creation in 1783, Paris School of Mines has been an important place regarding scientific discoveries. New elements and mineral species have been identified thanks to the support of the collection and the knowledge of some of the School's professors and students, with a large number of minerals named after engineers and professors of the School. Over the centuries, the collection has been enriched thanks to geological prospections, gifts, bequeaths, exchanges, purchases, and close links with the industry. This rich history can be traced back through many channels and with this paper, we will trace it thanks to emeralds.

## Emerald, beryl and Paris School of Mines

Research and significant findings regarding emeralds are linked to the School of Mines and its history. In 1798, René Just Haüy, first curator of the School of Mines collection, was intrigued by the resemblance of emerald and beryl, then recognized as two different species. He put the School's professor Louis Nicolas Vauquelin in charge of examining and analyzing both materials. The results led to the conclusion that the two minerals were in fact the same species (Vauquelin, 1798a). Beyond this discovery, it was the discovery of a new element in the form of an oxide that Vauquelin identified: "terre de beril" ("beril's earth"), composed of the element now known as beryllium (Vauquelin, 1798a, 1798b). The same year, Vauquelin also discovered and named another new element, chromium, thanks to some analyses on crocoite (Vauquelin, 1798c, d). He then reexamined emerald and found out that its coloring agent is also the colorful chromium (Vauquelin 1798e). All of these discoveries have been undertaken at the School of Mines, however, we unfortunately do not know on which of the samples these studies were conducted (if any of the material was left after the chemical tests).

## The historic emerald localities from the School of Mines

The collection of emeralds at the School of Mines is extensive and covers most known emerald deposits. As we could not discuss all deposits, we are here focusing on the "old localities", with specimens having interesting stories. We will feature emeralds from Egypt, known since the pharaohs, from Austria, known from the Celts and the Romans, and from Colombia, known from the Incas and the Muiscas. The samples come from expeditions in those different countries, also from collectors, donors, and from World Expositions (Fig. 1). They all trace back the close links of the School to the mining industry and School's engineers that traveled the world to discover and mine new deposits.

## Emeralds from the French Crown Jewels

Last but not least, we will unveil the history of the emeralds from the French Crown Jewels, deposited in 1887 in the collection of the School of Mines. As most of the French Crown Jewels were sold in 1887 in an effort of the French Government to get rid of this symbol of Royalty and Empire, a few (mostly unmounted) stones were set aside. The gems were deposited at Le Louvre, at the National Museum of Natural History in Paris, and at the Paris School of Mines. If the two other institutions are well known for keeping such national treasures, it is a recent awareness to the public that our Institution led. Part of the donation consisted in emeralds. Fifty faceted emeralds were once set in the Coronation Crown of Napoléon the third.

A string of emerald beads was also part of the donation, ceased from the French Royalty (Fig. 2). All the emeralds remaining are part of the permanent exhibit since 2016.

Emeralds are one of the many examples of minerals that can be used to show the rich history of the School of Mines. Hidden treasures or well displayed specimens, they all have interesting stories behind them that we want to continue discovering and revealing.



Fig. 1: Exceptional sample of emerald on matrix from Egypt, which was on exhibition at the World Exposition in 1867 (ENSMP 2115; 16 x 13.5 x 7.2 cm; crystals up to 3 cm). Crystals of emeralds are localized within a pegmatite vein within the micaschist. Photo: Musée de Minéralogie MINES Paristech / E. Gaillou.



Fig. 2: String of 47 emerald beads from the French Crown Jewels, in the collection of the Paris School of Mines (ENSMP 68438, each bead is 6 to 7mm in diameter). Photo: Musée de Minéralogie MINES Paristech / E. Gaillou.

### References

- Vauquelin, L.-N. 1798a. De l'Aigue marine, ou Béril ; et découverte d'une terre nouvelle dans cette pierre". *Annales de Chimie*, 26, 155–169.
- Vauquelin, L.-N. 1798b. Sur la terre du Béril, pour servir de suite au premier mémoire sur le même objet. *Annales de Chimie*, 26, 170–177.
- Vauquelin, L.-N. 1798c. Mémoire : Sur une nouvelle substance métallique contenue dans le plomb rouge de Sibérie et qu'on propose d'appeler Chrôme, à cause de la propriété qu'il a de colorer les combinaisons où il entre. *Annales de Chimie*, 25, 21-31.
- Vauquelin, L.-N. 1798d. Second mémoire : Sur le métal contenu dans le plomb rouge de Sibérie. *Annales de Chimie*, 25, 194-205.
- Vauquelin, L.-N. 1798e. Analyse de l'Émeraude du Pérou. *Annales de Chimie*, 26, 259-265.