

The gems of the Targioni Tozzetti 18th century naturalistic collections: a mineralogical study

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The Targioni Tozzetti Collection is one of the few examples of 18th century litho-mineralogical collections that survived to the present day. Giovanni Targioni Tozzetti (1712-1783) purchased the collection of his master, the naturalist Pier Antonio Micheli (1679-1737), after his death and enlarged it considerably. The catalog's collection consists of 12 volumes (n.1 and n.11 are related to the zoological collections, from n.2 to n.9 concern mineralogical samples, while n.12 is about the samples of his son Ottaviano (1755-1829) (Cipriani & Scarpellini, 2007). Actually, 2687 specimens, complete with original signs and tags, described by Giovanni Targioni (618 collected from the Micheli collection), are still preserved at the Museum of Natural History of the University of Florence.

The present work aims to characterize from the mineralogical point of view the specimens described in the volume 4 of the catalog, which contains mineralogical samples of gemological interest (Cipriani, 2007). Another purpose of this study is to obtain information on the personal cataloguing method followed by Giovanni Targioni Tozzetti.

After a historical/biographical study conducted on the information contained on Tomo 4, a total of 67 samples, referring to 37 inventory voices, undergone to a macroscopic analysis carried out with stereoscopic microscope and μ -Raman spectroscopy investigation.

The analytical results allowed to discredit the mineralogical attribution operated by Giovanni for 19 samples out of 67; while for 46 samples the original attribution was confirmed. The identification of two samples was not achieved.

Hereafter are indicated the species recognized with, in brackets, the number of the corresponding specimens: analcime (2), beryl (var. emerald, 6), diamond (1), fluorite (3), garnet group minerals (pyrope, almandine etc., 30), quartz (vars. amethyst, citrine and chalcedony, 10), olivine group minerals (forsterite, 4), sphalerite (1), topaz (1) and zircon (7).

The evidence observed indicated that Giovanni made an incorrect attribution mainly when it was simply based on the colour of the specimens. On the other hand, when he was able to achieve more information from direct observations regarding physical properties, like habitus, brightness and hardness, or by means of indirect observations (e.g. from data collected by other scholars), the attribution was mostly correct from the mineralogical point of view.

Despite the limited number of samples selected, as compared with the total corpus of the collection, this work represents a pilot project that opens the way to the systematic study of the collection by means of modern techniques. It has therefore a remarkable importance in the museographic valorisation of the specimens and for the development of the knowledge on Italian mineralogy's history in the 18th century.

Cipriani C. (2007) - La collezione mineralogica Targioni Tozzetti: gemme e pietre dure. Rend. Lincei, 18(2), 67-87.

Cipriani C. & Scarpellini A. (2007) - Un contributo alla mineralogia settecentesca: la collezione di Giovanni Targioni Tozzetti. L.S. Olschki, Firenze, 200 pp.