

Vltavín or **moldavite** is a name for tektite, which was discovered in South Bohemia in the areas around the Vltava River.

In 1787, Professor of Charles University, Dr. Josef Mayer, presented a report on an interesting discovery near Týn nad Vltavou. Several natural glasses came from this estate, but the professor thought it was probably chrysolites of volcanic origin. However, it soon became known that it was another special material and according to the German name Týn nad Vltavou "Moldauthein" (derived from the German name "Vltava - Moldau") the custodian of the National Museum in Prague Franz Xaver Maximilian Zippe since 1836 called "moldavite". The Czech equivalent of "vltavín" appeared more than 50 years later, at the time of the Jubilee Regional Exhibition in 1891. In the 20th century, they were included in the group of tektites, and only in the second half of the 20th century. the way of their origin was definitely proved.

The main area of the moldavite deposits is the upper basin of the Vltava, especially the strip of localities between Prachatice and Trhové Sviny. Moldavites found in Moravia (mostly in the central part of the Jihlava River) are sometimes called "moravites" (This is an unused, possibly local name. Specialized publications do not know it, foreign languages work with the name moldavite). In Moravia, researchers František Dvorský and Rudolf Dvořák described localities with moldavites. Other less important sites were discovered in the Cheb Basin, in the vicinity of Dresden and in neighboring Austria, in southwestern Poland, and 2 isolated finds in the extinct sandpit in Prague Kobylisy and in Mělník, which are in the collection of the National Museum in Prague. Approximately 100 years after the description of Czech moldavites, moldavite finds in Moravia were described.

Similar natural glasses (tektites) are still found in three places in the world, but only moldavites from this group are transparent and bright green and thus usable as jewel stones - "gems"

Properties

The moldavites are almost chemically identical to clayey rocks, but, unlike volcanic glass, they contain almost no water. The moldavites contains some "defects" in the form of air bubbles, which are common mostly in South Bohemian moldavites. Bubbles are tiny, in the order of tenths of a millimeter, but even bubbles over 1 centimeter long have been found. The pressure in these bubbles is surprisingly low, 19 to 25 times lower than the sea level pressure, suggesting that moldavites are formed in environments with lower pressure (such as higher atmospheric layers). In some moldavites, there are even traces of the atmosphere passing through the aerodynamic curvature.

Mineralogical collections

The largest collection of moldavites is located in the National Museum in Prague, other smaller collections can be seen in the Moravian Museum in Brno, the Museum of South Bohemia in České Budějovice, the local museum in Týn nad Vltavou, also in the Highlands Museum in Třebíč is a large collection of tektites and moldavites. The collection contains a moldavite from Štěpánovice (232.5 g), the largest moldavite that can be seen in the museum's collection. The only museum dedicated directly to moldavites (and cosmic impacts) with a beautiful collection of moldavites was opened in June 2013 in Český Krumlov.

Many of them are located in private collections around the world. It is estimated that the total number of all fallen moldavites is 20 million pieces with a total weight of approximately 275 tonnes (another source reports up to 300 tonnes). A large number of moldavites were washed into rivers, transported and then stored in sediments, where they were etched by aggressive natural solutions for millions of years. The etching of the unequally resistant surface of the tektites resulted in variously broken and deep wrinkles of individual pieces, which we call sculpting. Nowadays, moldavites are mainly found in fields under which there is a sandy layer of original sediments, from where they reach the surface during deep plowing. The disadvantage, however, is often damage during plowing, and so are much more valuable findings from sandpits, where the chance of discovery is much less (1 to 3 per cubic meter).

The largest moldavite found in the Czech Republic was found near Slavice and weighs 265.5 grams. However, the average weight of moldavite found in the Czech Republic is only 6.7 grams and the average weight of moravites found in Moravia is 13.5 grams.

Art-historical collections

Occasionally the moldavite has been set in jewelry or jewelery since the Baroque period, mostly only from the second half of the 19th century. The largest collection of historical jewelry with Czech moldavites has the National Museum in Prague (Department of Older Czech History) and the Museum of Decorative Arts in Prague. Modern and contemporary jewelry is collected by the Museum of Decorative Arts in Prague and the Moravian Gallery in Brno. Individual specimens in their collections have South Bohemian Museum in České Budějovice, Museum of Bohemian Paradise in Turnov and other regional museums.

The largest moldavites found in Bohemia

- Radomilice - 142,5 g - private collection (1980)
- Dubenec - 130,7 g - private collection (1985)
- Radomilice - 125,0 g - private collection (1985)
- Strpí - 110.89 g - 65.2mm x 46.4 x 30.5mm - National Museum - (1976)
- Strpí - 172.2 g - private collection
- Dobrkovská Lhota - 171.0 g - dumbbell shape - private collection



The largest moldavite found in Moravia

- Slavice - 265.5 g - L. Sabata, Jihlava (1971) measuring 100mm x 45mm x 30mm
- Terůvky - 235.0 g - R. Dvořák (1913)
- Štěpánovice - 232.5 g - Třebíč Highlands Museum

Theory of origin

According to the most probable theory, moldavites originated together with the formation of the Riesky crater, which can be found between Nuremberg, Stuttgart and Munich, which houses the medieval town of Nördlingen. There is a crater museum in the town, including a display case with moldavites. The whole crater has an oval shape resembling a hexagon with rounded shapes. The Swabian tectonic line passes through the center of the Riesky Crater, which is very visible in its western part. Crater diameter is 24 kilometers. It is estimated that the Riesky Meteorite measured about 1 kilometer in diameter. Similarly to other places of impact, this crater is not the only one nearby (36 kilometers to the southwest is the Steinheim crater with a diameter of 3.8 kilometers, indicating the disintegration of one body when passing through the atmosphere into two, or two bodies flying into the atmosphere).

Immediately after the impact, probably the whole area of Bohemia was covered with moldavites. (This statement does not correspond to the accumulation of moldavites in individual areas. Much rather it was the individual streams of liquid material that sprayed in certain directions given by the geomorphological arrangement at the point of impact ...)

Interesting facts from history

In South Bohemia, according to folk tradition, a wedding ceremony was also associated with moldavites, when the young groom had to give moldavite to the expectant bride as proof of his deep feelings.

Natural non-cut moldavite was also part of the platinum jewelry, which was given to Queen Elizabeth II. a gift from the Swiss government.