

Spinel

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As a gem, spinel can be regarded as a sort of poor relation of the ruby. At its best, it occurs as a perfectly transparent red stone closely resembling the ruby, and, for this reason, red spinels are sometimes wrongly referred to as spinel rubies or balas rubies. This name, however, should not be used, for, apart from its color, spinel has little in common with the ruby and is in fact a different mineral.

Blue spinel is not uncommon in nature, but its color is a not-too-attractive ink shade, and it is rarely used in jewelry. Like the diamond, spinel belongs to the cubic crystal system and occurs in nature in beautiful octahedral crystals. Sometimes, these are so perfectly shaped and possess such lustrous faces that the un-initiated might well think they had been skillfully polished by a craftsman. For this reason, they are sometimes worn as natural crystals in native jewelry.

Chemically, spinel is an oxide of magnesium and aluminum, and its formula is $MgAl_2O_4$. Like ruby, it owes its red color to small traces of chromium. The blue shade is said to be due to traces of iron. With a hardness of 8, spinel ranks among the hardest minerals and, although it is admirably suitable as a ring stone, it is seldom found in sufficiently large sizes for that purpose.

It occurs largely in association with ruby and is found in the ruby-bearing limestones of Burma and Thailand. Attractive violet and blue stones have been discovered in the Ceylon gem gravels, also a black form of spinel called ceylonite. Colorless spinel is rarely found in nature, most of these being produced synthetically as well as in many attractive shades. The process employed is almost identical with that used for synthetic rubies and sapphires, but the raw material in this case consists of a mixture of aluminum and magnesium oxides to which are added the appropriate chemicals to produce the required shades.

In the centerpiece of the British Imperial State Crown is set a marvelous red stone known as the Black Prince's ruby, which is said to date back to the fourteenth century. Many exciting tales have been told about its history. The stone is irregular in shape and measures nearly 2 inches in length. In early times, when all red gems were believed to be rubies, this magnificent stone was so called. Today, however, it is known to be only a red spinel and of inferior value. Yet, in this instance, the true value does not lie with the mineral species to which it belongs, but in its long and ancient history.