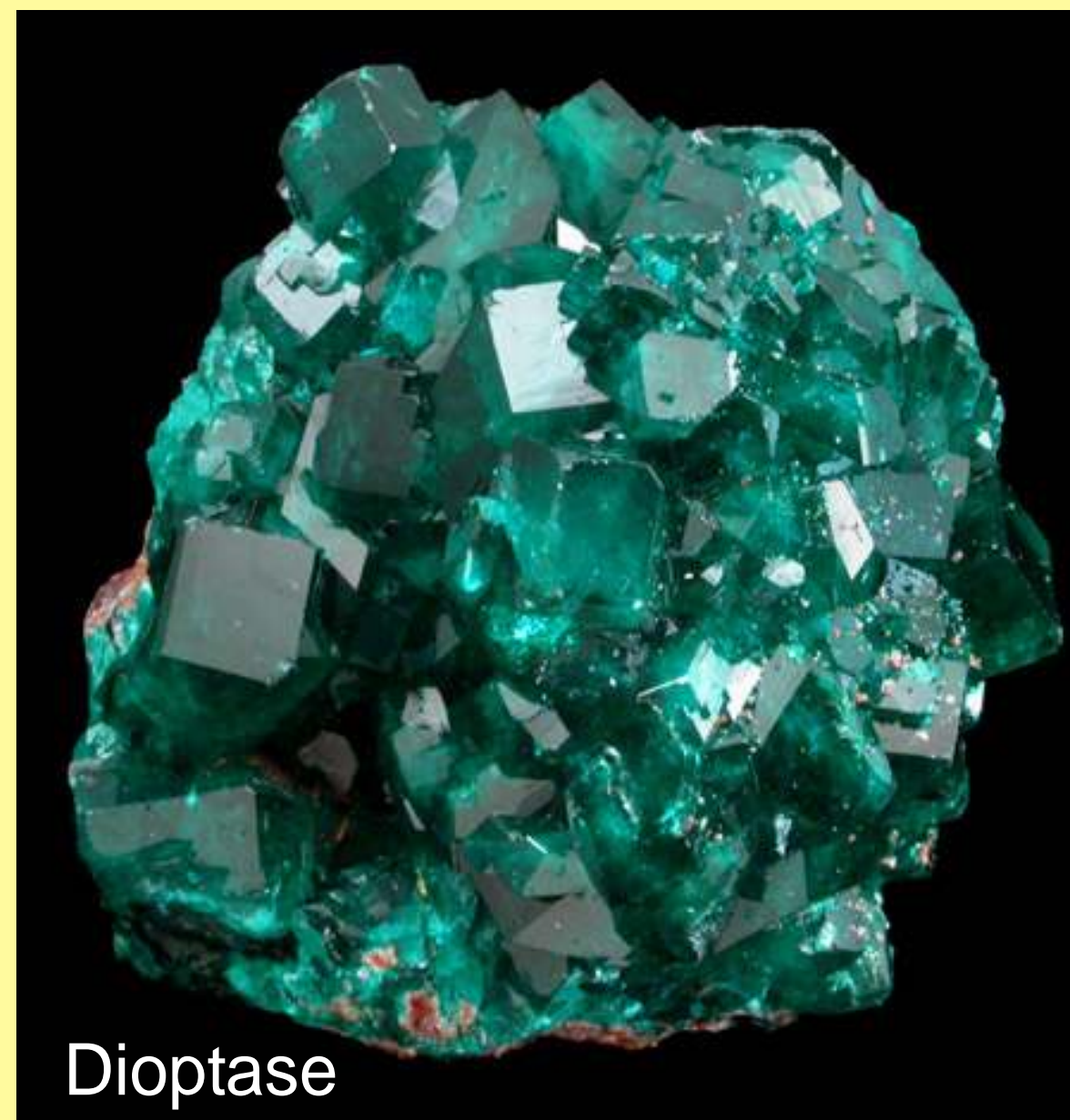


# MINERALS, CRYSTALS and GEMSTONES

A **mineral** is a naturally occurring, inorganic solid with a definite chemical composition and a crystalline structure formed by geological processes (in contrast, a rock is an aggregate of one or more minerals). The term "mineral" encompasses both the material's chemical composition and its internal structure. Minerals range in composition from pure elements and simple salts to very complex silicates with hundreds of known varieties. The study of minerals is called mineralogy.



Halite



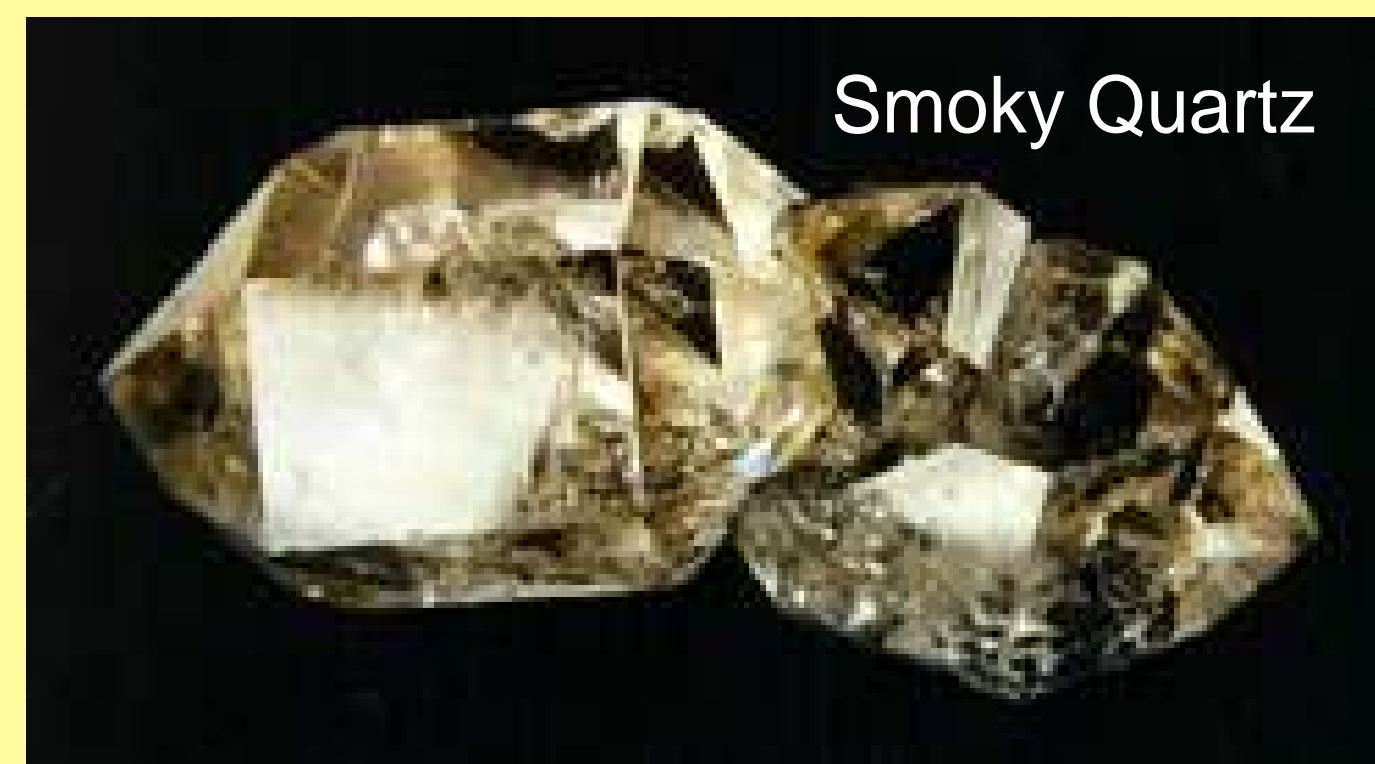
Diopside



Tourmaline



Amethyst



Smoky Quartz



Fluorite



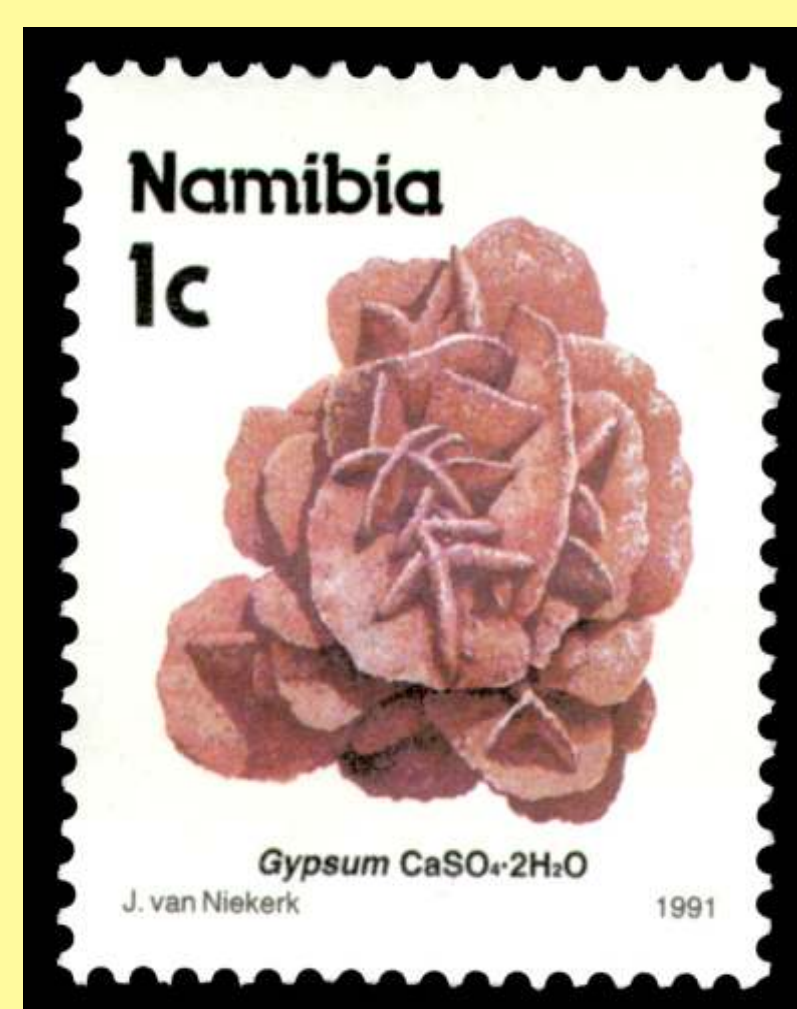
There are currently more than 4,000 known minerals, according to the International Mineralogical Association, which is responsible for the approval and naming of new mineral species found in nature. Of these, only some 150 can be called "common" (e.g. quartz, feldspar, halite), while another 50 are classed as "occasional" (e.g. azurite), and the rest as "rare" to "extremely rare" (e.g. Boltwoodite). There are a host of rare minerals, that have been first described from Namibia (e.g. Tsumebite), some of which have not been found anywhere else in the world.



Smithsonite



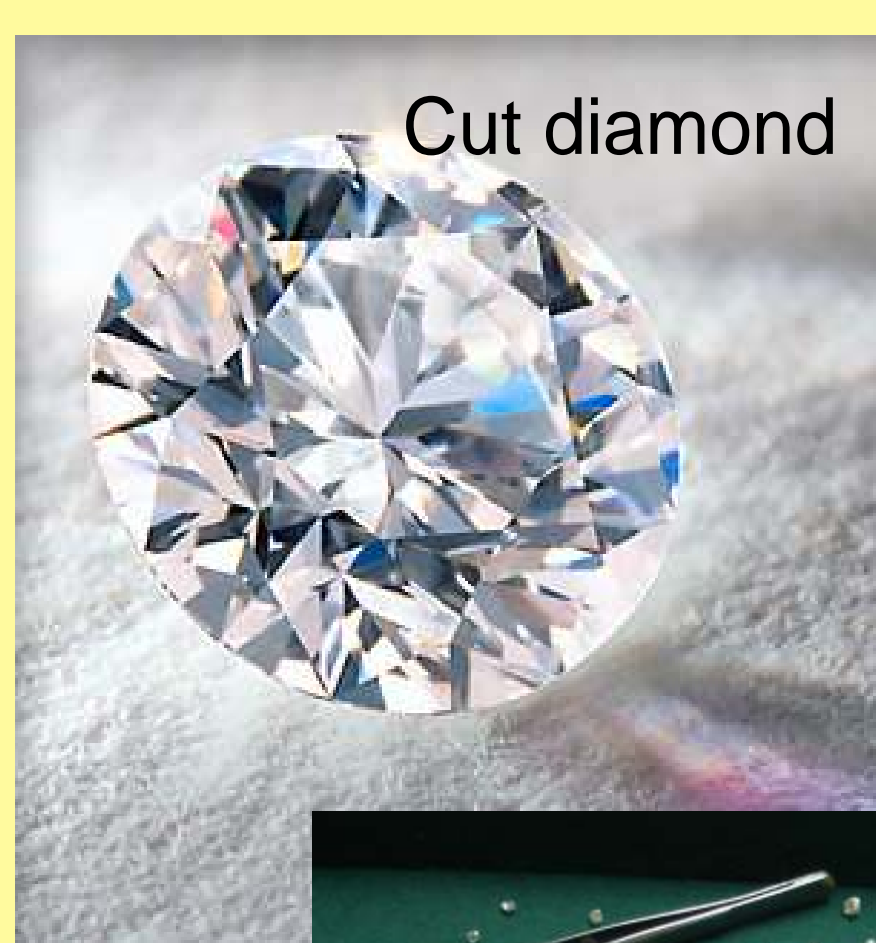
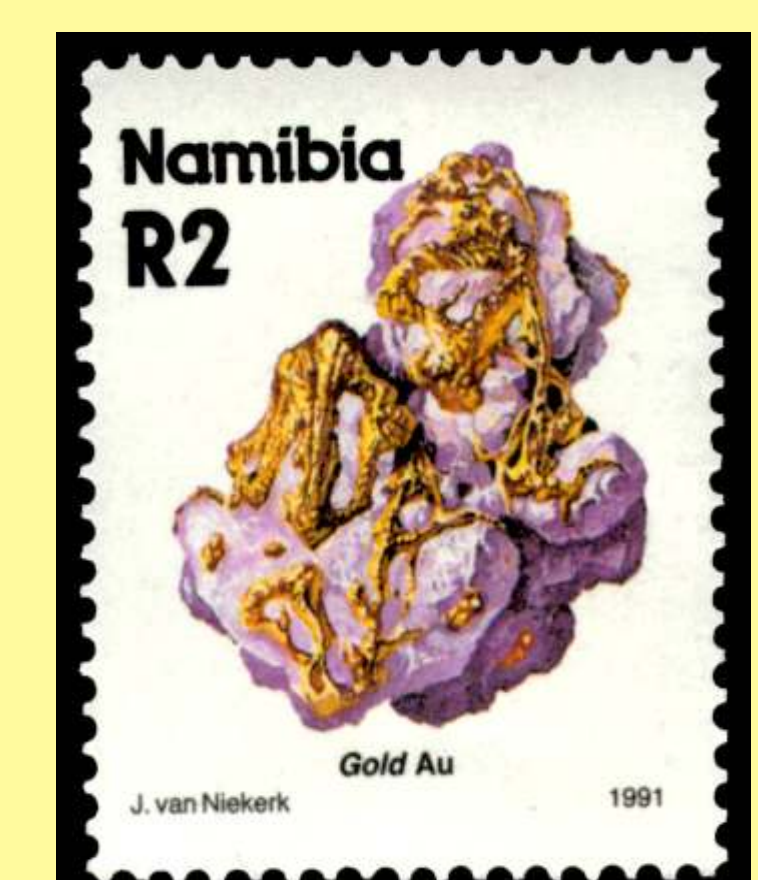
Azurite



Smithsonite



Boltwoodite

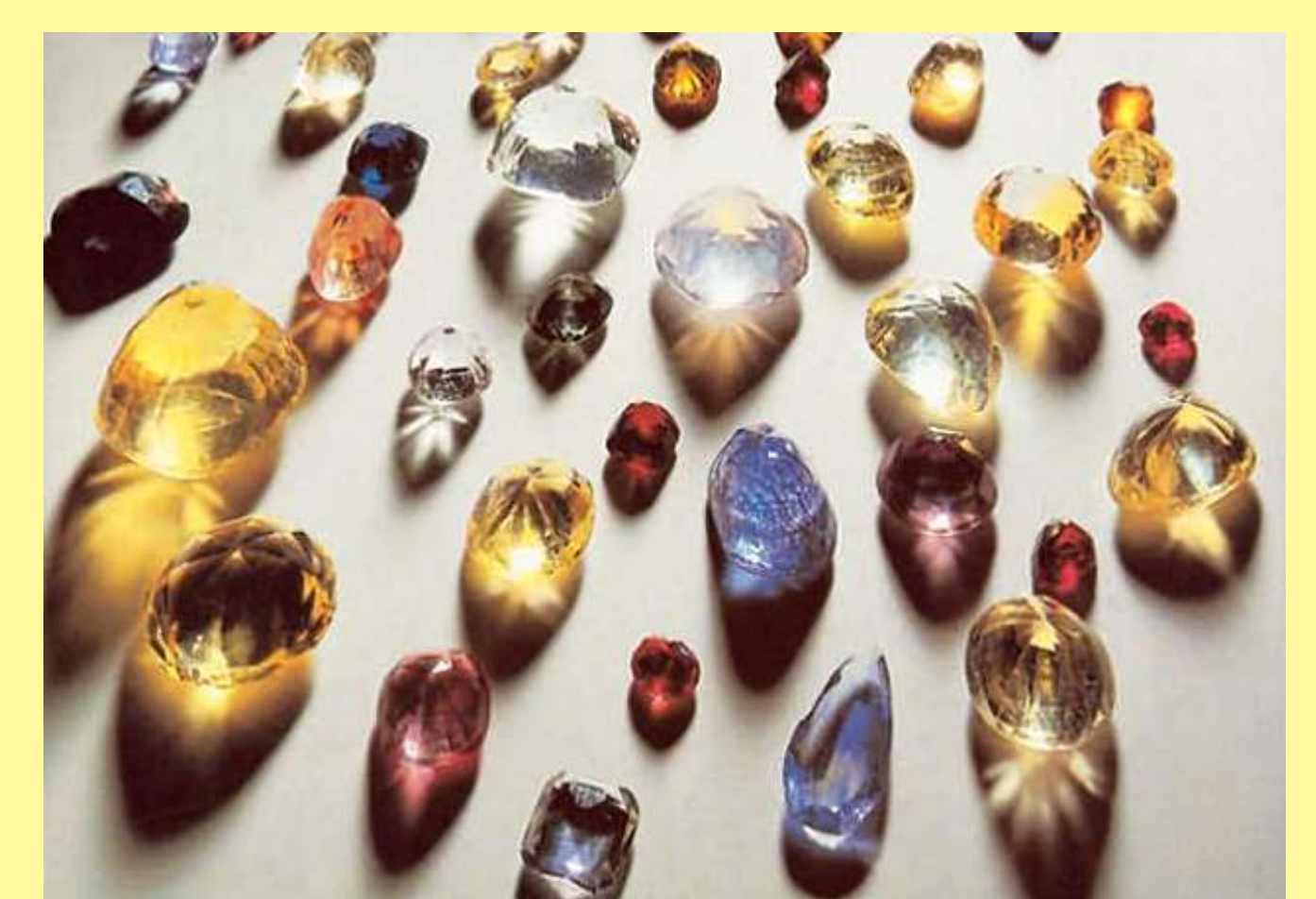


Cut diamond



Rough (uncut) diamonds

A **gemstone** is a mineral (e.g. tourmaline), rock (e.g. lapis lazuli), or petrified material (e.g. amber, jet) that when cut or faceted and polished (right) is collectible or can be used in jewelry. Some gemstones which may be generally considered precious or beautiful are too soft or fragile for jewelry manufacture (e.g. single-crystal rhodochrosite), but are exhibited in museums and are sought after by collectors. Diamonds and emeralds are the most precious gemstones.



Uncut precious stones