

Gemology Jubilee!

Ammolite: The Colorful Organic Gem from Prehistoric Times

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An organic gemstone is a gem that has been created by a living, or once living, organism. Some popular organic gems include pearls, coral, shell, and amber. This installment of “Gemology Jubilee!” is about one of my favorite organic gems, ammolite. I recently had the opportunity to ask Amarjeet Grewal, AGS Supplier member and Founder and President at Iniskim Ammolite, some questions to help me elaborate on what makes this beautifully colorful gemstone so special.

The Origins of Ammolite

Ammolite originates in the long-lost world of ammonites, an ancient marine mollusk species. Over millions of years, pressure and mineralization have transformed these mollusk shells into fossilized works of art.

Quality ammolite is found in one locale in the world, nestled in the sedimentary rock of the Bearpaw Formation. This geologic formation was created by marine sediment in the late Cretaceous age (Campanian – Maastrichtian) about 65 to 80 million years ago. (Bearpaw Formation, n.d.) The formation spans from Montana, north into Saskatchewan and Alberta, Canada. Ammonite found here was formed about 71 million years ago, according to Amarjeet, and this is the only place where “the shell [is] perfectly preserved and transformed into a brilliant gemstone.” This single location speaks to the rarity of this stunning gem.



Classic freeform ammolite hand specimen demonstrating the most common colors—red, orange, and green. Image provided by Iniskim Ammolite.

Cultural Significance of Ammolite

Beyond its geological rarity, ammolite carries profound cultural significance. It is revered by the Blackfoot Tribes of North America, who refer to it as “Buffalo Stone” or “Iniskim,” signifying wealth and abundance. Folklore weaves tales of its divine origin, a gift bestowed upon humanity by the gods over a millennium ago. In the modern era, ammolite’s importance transcends folklore and tradition.

Ammolite was recognized with the designation of “gemstone” by CIBJO (The World Jewellery Confederation) in 1981, making it the newest gemstone to be recognized in the past 300 years. Since then, its value has increased. Increases are estimated at 30% year-over-year for the past decade, according to Amarjeet.

On April 21, 2022, the Ministry of Culture declared ammolite the gemstone of Alberta, Canada. Amarjeet mentions that this prestigious designation recognized “the unique and valuable contribution of ammolite to Alberta’s cultural and economic heritage.” Once a well-kept secret of nature, the gemstone has become an emblem of the province’s natural beauty.

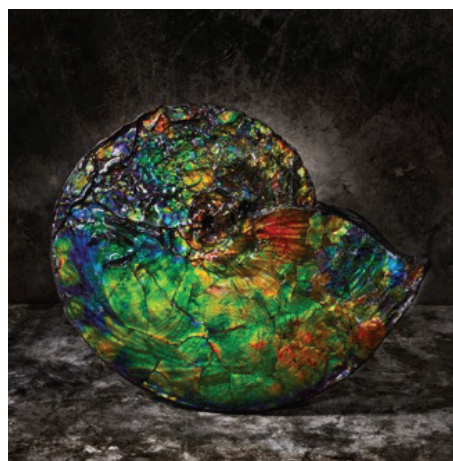
A Rainbow of Color

Ammolite is comprised of multiple iridescent layers of aragonite where, according to Amarjeet, “each thin aragonite platelet acts like a tiny prism allowing for a kaleidoscope of color.” The iridescence of ammolite and the array of spectral colors make this gem so desirable. As the light moves over the fossilized gem, the colors appear to move through a rainbow. Ammolite is often compared to opal because of the multitude of colors. However, different formation processes and materials create a distinction between the two. The spectral color iridescence is caused by white light being split into its component spectral colors as it passes through the thin layers of aragonite. This causes the wavelengths of the individual colors to be reflected back to the eye, creating the rainbow.

In ammolite, the rarest colors are pink, violet, and blue, whereas red, orange, and green are the most common. Gems are sought after that display the full spectrum. Those that display the rarest colors have a higher value.



Mesmerizing – One-of-a-kind ammolite hand specimen showing all the colors of the rainbow. Image provided by Iniskim Ammolite.



The iridescence of ammolite in an ammonite fossil. Canadian ammonite – 14”. Image provided by Iniskim Ammolite.

Ammolite in Jewelry

Crafting ammolite into exquisite jewelry is an art that demands skill and precision. With a hardness ranging from 3.5 to 4.5 on the Mohs scale, ammolite requires stabilization to increase durability. An epoxy may be used for stabilization, or ammolite can be made more durable by creating a doublet with a quartz or spinel top.

Jewelry designers, captivated by ammolite's iridescence, have explored various avenues to showcase its natural beauty. Freeform ammolite stones, with their untouched natural shapes and colors, have inspired award-winning designs. Other designers prefer more calibrated shapes, especially for jewelry sets. Ammolite is usually seen in sterling silver, white gold, or yellow gold. The spectral colors of ammolite are usually the star feature of the jewelry. Commonly seen designs may incorporate accents of diamonds or white sapphires. This is not a limiting factor, however. Amarjeet states, "Iniskim recognizes that there is opportunity to push the envelope and play with the natural aesthetics of ammolite using complementary colored gemstones to enhance the beauty."



Angie's stone: This natural ammolite stone is 204ct, AAA grade, and in a museum collection named "Butterfly." This stone was chosen by celebrated gem artist Angie Crabtree for her first ever ammolite painting commissioned by Iniskim. Images provided by Iniskim Ammolite.

Ammolite stands as a testament to nature's artistry, emerging from ancient marine mollusk shells into a kaleidoscope of colors. Its rarity, unique iridescence, and cultural significance have elevated it to gemstone status, celebrated globally. In jewelry, ammolite continues to captivate with its vibrant hues, making it a cherished gem for generations to come.



Image provided by Iniskim Ammolite.



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