

# Septarian concretion of polygonal pattern



- Place of discovery The Carpathians
- Dimensions height: 8.5 cm, length: 16 cm, width: 14 cm
- ID no. ZNG PAN D-V-4/3a,b
- Museum [The Geological Museum of the Institute of Geological Sciences, Polish Academy of Sciences](#)
- Subjects [nature](#), [excavated from the earth](#)
- Material [mineral](#)
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- Digitalisation RDW MIC, Małopolska's Virtual Museums Plus project
- Tags [minerał](#), [natura](#), [3D plus](#), [WMM Plus](#), [domena publiczna](#)

Septarian, marlite or clayish and ferruginous concretion is a type of spherical, elliptical or lens-shaped aggregate of minerals occurring within sedimentary rocks, e.g. loam. It is distinguished by radial or polygonal crevices, widening towards the interior, filled with calcite, dolomite and ore minerals. They have probably developed as a result of the cracking and shrinking of the material they were made of.

Elaborated by Barbara Kietlińska-Michalik (The Geological Museum of the Institute of Geological Sciences, Polish Academy of Sciences), editorial team of Małopolska's Virtual Museums, © all rights reserved

Bibliography:

Jerzy Żaba, *Ilustrowana Encyklopedia Skał i Mineralów*, Katowice 2010.

## Organic formula

Nature, seemingly unpredictable, surprises us with its regularity, rhythm, and sometimes even the creation of geometric forms. Perfect ripples on the water, geese flying in a V-formation, mushrooms forming a circle in the forest - they arouse admiration, but the surprise at their discovery is greater. This impression results from the association of the sense of order being a property belonging solely to the human mind, and being the result of its production, in contrast to the irregularity which characterises the living world. However, this could not be more wrong.

Nature is ruled by complex laws which impart rhythm and order to its activities. They result in a multitude of designs and motifs which nota bene have inspired man for thousands of years. Creative mechanisms of nature are characterised by unusual simplicity. The geometry of the emerging patterns is implemented according to the principle whereby identical modules grow into entire sets of forms. We can clearly see this method by looking at a crystal. "The crystalline structure is the result of a well-ordered arrangement of atoms subjected to the regime of forces affecting them. The size of the crystal is derived from the reproduction of its elemental structure" - we read in the description of the object, which is [Halite crystals](#) from [the Salt Works Museum in Wieliczka](#). [Calcite](#) is formed in an analogous way. Interestingly, each wall of its single module takes the form of an isosceles rhombus.

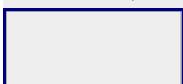
The order of nature, which creates regular sets of forms, has been intuitively developed in decorative art. It adopted the same principle of simplicity in creating patterns, employing it in specific decorative elements. This example is well illustrated by the [Sea Urchin](#) from the collections of the [Geological Museum of the Institute of Geological Sciences, Polish Academy of Sciences](#), whose structure is formed by radially propagating, regular protuberances, inscribed in a circle. It makes one think of the form of a rosette or a star, which have been decorative motifs occurring throughout various epochs in all fields of art. (cf. [Spoon Rack from Podhale](#), [Cross of the Tailors' Guild in Kety](#)).

Individual patterns are created thanks to basic shapes used in a variable or regular arrangement, placement or alternation. This method, combining elements in a simple fashion, allows you to obtain an infinite multitude of configurations. An example is the phenomenon of snowflakes or the [Star-shaped quartz](#) repeating the same pattern from the collection of the Geological Museum of the Institute of Geological Sciences, Polish Academy of Sciences.

The regularity of the pattern, however, should not be continuous, because your eyes will quickly get used to it. The element of surprise, deviation from the principle – this is what catches your attention.

In art, inspiration drawn from nature is not a novum, the formation and dependencies between both of them, in turn, is still a mysterious process, with the topic itself being undoubtedly relevant and still explored.

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Bibliography:

Ernst H. Gombrich, *Zmysł porządku: o psychologii sztuki dekoracyjnej*, Kraków 2009.

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