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# Manifestation Of Ovoid's Form In Nature And Human Life

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## **Abstract**

The problem of an adequate description of the egg and the ratio of its shape and incubation process with various environmental conditions, development strategies, directions of evolution and the phylogeny of birds is relevant in modern ornithology. The egg, as a stage of ontogenesis, contains a significant amount of information that allows you to make many predictions about the incubation process, the quality of the future offspring, as well as some issues related to the state of populations of various bird species. However, many methods of describing the shape of bird eggs do not fully take into account the peculiarities of the ovoid shape, since the closed loop does not allow seeing its constituent parts. In this regard, the composite ovoid method, that we use, is more constructive. In accordance with it, the egg profile is considered as a set of arcs of different radii, which smoothly merge into each other. Such an approach makes it possible to compare various methods of describing an ovoid form that are not related to bird eggs. For centuries, mathematicians have developed many egg-shaped curves based on algebraic equations.

Architects and engineers have built various designs according to ovoid drawings. Jewelers have created different forms of Faberge style eggs. All of them were not ornithologists studying real egg forms. On the other hand, birds produce eggs that are identical by shape with different human designs.

The above shows that the egg-shaped form is a manifestation of the general law of morphogenesis, which manifests itself equally in mental and practical human activity, in the form of planetary orbits, in the form of bird and animal eggs, in the ovoid form of animals, plants and their organs.

All these aspects lead to the idea of a new look at the evolutionary process and the laws of its manifestation. Moreover, the research algorithm is also changing. Until now, the basis of any research included the accumulation of evidence, their synthesis and the search for patterns. The new algorithm is based on the knowledge of the general patterns. Knowing the parameters and the nature of the manifestation of patterns, we get the opportunity to objectively describe any particular object and predict possible ways of its variability. A wonderful example is the Pythagorean figure of Vesica piscis, from which all types of ovoid are derived, and, consequently, the variants of their realization in objects of nature and human activity. On the basis of this figure, we have developed a system of standards for the egg shape [1], which includes the geometric shape, its name and parameters. Only this approach allows us to find the correlation between the shape of the egg and its ability to provide optimal conditions for the development of the bird embryo.

**Keywords:** *eggs, ovoid shape, general pattern.*

## **References:**

[1] I.S. Mytiai, A.V. Matsyura. Geometrical standards in shapes of avian eggs. Ukrainian Journal of Ecology, 2017. 7(3), 264–282. [https://doi.org/10.15421/2017\\_78](https://doi.org/10.15421/2017_78)