

## Biostratigraphic Distribution of the Cretaceous Oysters (Bivalvia) in Volyno-Podolian region of East European Craton.

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The collection of oysters from Cretaceous sediments of southwest of the East European Platform was studied. The studied material was collected by S. Pasternak, V. Hawrylyshyn and others in the second half of the 20<sup>th</sup> century and housed in the State Museum of Natural History of National Academy of Science of Ukraine (Lviv).

The fauna of oysters irregularly distributed and presented by variable number of species and the remains almost in all stage age of Cretaceous (Table 1). High adaptability of oysters to variable of biotic and abiotic environmental conditions was displayed on the shell morphology. The shells variability related primarily to a change of depth and the nature of substrate. These indicators were fundamental to their development and distribution on the territory of studied region.

The sediments of Albian are composed of glauconitic sandstone with gravel and conglomerate, in the lower part it consists of the redeposition of concretions of ripheans phosphorite. The remains of *Amphidonta conica* were numerically dominated in the complex of Albian fauna. *Amphidonta laterali*, *A. sigmoidea*, *Gryphaostrea canaliculata*, *Rhynchostreon suborbiculatum* and *Arctostrea carinata* were presented by a smaller number of specimens. The investigated material consists of medium size valves (15-30mm). Morphological characteristics of shells pointed to shallow depth and warm climate in sea of the Late Albian.

The most abundant and diversified fauna of Cretaceous oysters comes from Cenomanian. The deposits of Cenomanian are consisting of chalky limestone concretions and nodules of black, gray and spotted marl, a sandy stratum and inoceramids limestone. Large number of determined oysters indicates enabling environment for their development in the coastal sandy facies. The new paleobiocenose composed by chalcedonic remains of *Amphidonta conica*. It formed the oyster banks on underwater humps and shallows of the Medium Prydnistrov'ya. The identified remains of *Amphidonta cf. reussi*, *A. conica*, *Amphidonta lateralis*, *A. sigmoidea*, *Gryphaostrea canaliculata* indicated conditions of Early Cenomanian of Volyn-Podolian basin did not differ from Late Albian.

The great development of Bivalvia took place at the boundary between the Early and Late Cenomanian. The general character structure of the features of oysters shells attested, that it lived in shallow, warm, moderate salinity water enriched in oxygen. The shells of *Hytotissa semiplana* tell about the reef nature of the Cenomanian biocenose.

At Turonian stage is composed of soft, white sandy chalk, varying degrees of siliceous limestone. The fauna of oysters were represented only by a small number of *Gryphaostrea canaliculata*, *Liostrea incurva*. The extinction of thermophiles, shallow oysters groups at Turonian pointed to temperature reduction, diminution of nutrient and small content of oxygen of the water environment.

At Coniacian stage the oysters were not found. Probably, a fauna of Inoceramidae which reached its peak, and formed immobile benthos on shallow water forced out the groups of oysters.

SPECIES	ALBIAN	CENOMAN	TURONIAN	CONIACIAN	SANTONIAN	CAMPANIA	MAASTRIC
<i>Amphidonta cf. reussi</i> (Netsch)	+	+					
<i>Amphidonta conica</i> (Sowerby)	+	+					
<i>Amphidonta haliatidea</i> (Sowerby)		+					
<i>Amphidonta lateralis</i> (Nilsson)	+	+					
<i>Amphidonta sigmoidea</i> (Reuss)	+	+					
<i>Arctostrea carinata</i> (Lamarck)	+	+					
<i>Arctostrea diluviana</i> (Linneaus)	+	+					
<i>Arctostrea</i> sp.		+					
<i>Ceratostreon</i> sp.		+					
<i>Gryphaea nikitini</i> (Arkhangelski)		+					
<i>Gryphaea vesicularis</i> (Lamarck)							+
<i>Gryphaostrea canaliculata</i> (Sowerby)	+	+	+				
<i>Hytotissa semiplana</i> (Sowerby)		+					
<i>Hytotissa</i> sp.							+
<i>Liostrea acutirostris</i> (Nilsson)		+					
<i>Liostrea boucheroni</i> (Coquand)					+	+	
<i>Liostrea cf. dagnasensis</i> Rengarten		+					
<i>Liostrea incurva</i> (Nilsson)			+		+	+	+
<i>Liostrea wegmaniana</i> (d'Orbigny)		+					
<i>Rhynchostreon suborbiculatum</i> (Lamarck)	+	+					

Table 1.: Stratigraphic Distribution of oysters in Cretaceous Sediments of Volyno-Podolian.

The taxonomic composition of oysters in Santonian was made up by numerous valves of *Liostrea boucheroni* and *Liostrea incurva*. It settled on aleuritic bottom. Shallow depth of sea, warm climate, clean water and a small amount of other fauna of molluscs formed favorable conditions for the existence of oysters.

The sediments of Campanian consist of sandstone with layers of sand, loamy sediment, siltstone and argillaceous limestone. At Campanian stage, rarely valves of *Liostrea boucheroni* and *Liostrea incurva* were identified.

In comparison with Campanian, the Maastrichtian stage was more saturated with oysters. The sediments of Maastrichtian consist of light and gray with a green tint, argillaceous limestone, marl, marly siltstone and sandstone. Among the fauna of oysters *Gryphaea vesicularis*, *Hytotissa* sp., *Liostrea acutirostris*, *Liostrea incurva* have been identified. Occurrence and stratigraphic position of massive valves of *Gryphaea vesicularis*, which constitute 63% the number of the oysters, tell about the deeper section of Volyno-Podolian Sea.