

OERTLIANA, A NEW OSTRACOD GENUS FROM THE UPPER JURASSIC OF NORTH-WEST EUROPE

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ABSTRACT. A new genus of the family Cytherideidae is established under the name *Oertliana*; four species of the genus are described and their stratigraphical range in north-west Europe is examined.

IN 1955 G. Schmidt, describing the Upper Jurassic ostracods of north-west Germany, mentioned an ovoid-shaped ostracod with a rather simple hinge structure as Ostracod 102. In 1957 Oertli found a similar form in the Lower Kimmeridgian of the Paris Basin and recognized it as a hitherto unknown genus of the family Cytherideidae. The preservation of his specimens, however, made it impossible to establish a new genus as most of the internal features were unknown. The study of the ostracods of the Kimmeridge Clay type section in Dorset yielded specimens of this form in excellent preservation and the establishment of the genus became possible. So far four species of the genus *Oertliana* are known from the Upper Jurassic of north-west Europe; *O. kimmeridgensis* occurs in the Lower Kimmeridgian of Dorset and the Paris Basin. *Oertliana* sp. 1. was found in the Upper Kimmeridgian of Dorset. Of the remaining two species *O.* sp. 2 occurs in the Kimmeridgian of north-west Germany and *O.* sp. 3 in the Purbeck of southern Sweden.

Acknowledgements. I wish to acknowledge the kindness and help of Dr. J. W. Neale (University of Hull) and Dr. H. J. Oertli (S.N.P.A., Pau, France) in the preparation of this paper and for the loan of specimens.

Abbreviations. In giving the dimensions of ostracod valves the following abbreviations are used throughout the text: *L*, length; *H*, height; *W*, width; *Hi*, hinge length; *M/a*, width of anterior margin. Dimensions are given in millimetres.

Repository. All the figured and described specimens are stored in the Geology Department of the University of Hull. The specimen numbers are indicated by the prefix HU.

SYSTEMATIC DESCRIPTIONS

Subclass OSTRACODA Latreille 1806
Order PODOCOPIDA Müller 1894
Suborder PODOCOPINA Sars 1866
Superfamily CYTHERACEA Baird 1850
Family CYTHERIDEIDAE Sars 1925
Subfamily unknown
Genus OERTLIANA gen. nov.

Type species. *Oertliana kimmeridgensis* sp. nov.

Diagnosis. Carapace almost elliptical in side view, anterior end slightly more rounded than posterior. Surface smooth or finely punctate. Hinge adont, consisting of a faint

[*Palaeontology*, Vol. 8, Part 3, 1965, pp. 572-6, pl. 79.]

curved ridge on the right valve and a corresponding groove on the left. Muscle scar pattern consists of a vertical row of four equally sized scars with one anterior scar that is larger than the other four. Stratigraphical range: Upper Jurassic, Kimmeridgian–Purbeckian.

Oertliana kimmeridgensis sp. nov.

Plate 79, figs. 1–12; text-fig. 1

1957 Cytherideinarum? sp. 1. Oertli, p. 661, pl. 3, figs. 86–91.

Holotype. A female left valve, HU 2.J.1.31. *Paratypes*. 100 valves and carapaces, HU 3.J.29.1–100.

Derivatio nominis. From typical horizon.

Stratum typicum. *Rasenia mutabilis* Zone, Lower Kimmeridgian.

Locus typicus. Black Head, Dorset.

Diagnosis. Carapace elliptical, anterior end rounded, posterior slightly pointed. Valves subequal, left being slightly larger. Surface of valves finely punctate. Radial pore canals relatively thick in the middle, narrowing suddenly near both ends. Sexual dimorphism strong.

Measurements.

	<i>L</i>	<i>H</i>	<i>W</i>	<i>Hi</i>	<i>Ma</i>
Holotype	0.38	0.21	0.08	0.20	0.03
♀ Left valve	0.36–0.38	0.20–0.21	0.08	0.20	0.03
♀ Right valve	0.35–0.37	0.18–0.20	0.07	0.20	0.03
♂ Left valve	0.43–0.45	0.21–0.23	0.08	0.25	0.04
♂ Right valve	0.43–0.45	0.20–0.22	0.07	0.25	0.03

Description. Carapace elongate, elliptical. Left valve slightly larger than the right, with a slight overlap ventrally and dorsally. In dorsal view the carapace is lanceolate, the greatest width being at the middle in the females and somewhat nearer to the posterior end in the males. In side view the two valves are similar, although the right one is less high. The greatest height is at mid-point. The anterior end is rounded, the ventral and dorsal margins straight, running approximately parallel. The posterior end is slightly angular, more so in the right valve, where the postero-dorsal margin is straight and not rounded as in the left valve. Sexual dimorphism is pronounced, the males being much longer than the females. Their shape is essentially the same, but often the ventral margin of the male valve is slightly concave in the middle.

The surface of the valve is finely punctate. This ornamentation is strongest on the central part of the valve and disappears gradually towards the peripheral regions. It is connected with the finer structure of the shell, which in transmitted light seems to be perforated by irregularly spaced cavities. The size of these cavities decreases towards the periphery of the valve. The normal pore canals are few.

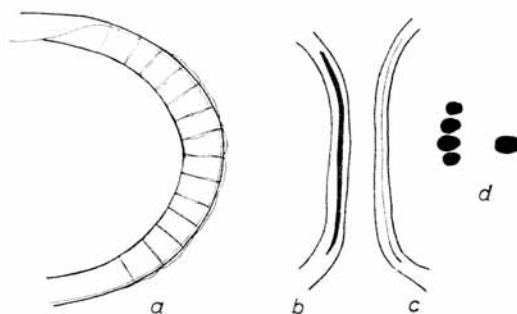
The duplicature is bilamellar. The inner lamella is moderately wide on the anterior, and narrow on the posterior part of the valve. Inner margin and line of concrescence coincide, the selvage is faint, but is better developed on the ventral parts, where it forms a fairly wide selvage lip. The radial pore canals are straight and simple. They are widest at their middle, narrowing suddenly at the ends. They number between ten and fifteen on the anterior margin.

The hinge is adont and rather weakly developed. It consists of a curved ridge on the right valve and a corresponding shallow groove on the opposite valve.

The muscle scar pattern consists of a slightly oblique row of four circular and equally sized scars. There seems to be only one anterior scar, which is larger than the others and lies in line with the second and third scars in the row.

Occurrence. *R. mutabilis* Zone, Lower Kimmeridgian, in Dorset and from the 'Lower Kimmeridgian' of the Paris Basin.

Remarks. The genus *Oertliana* does not seem to fit into any of the subfamilies of the family Cytherideidae, due to its primitive adont hinge. The muscle scars, however, are without doubt typical of the Cytherideidea.



TEXT-FIG. 1. *Oertliana kimmeridgensis* gen. et sp. nov. *a*, Anterior margin, male left valve, $\times 200$. *b*, Hinge margin, left valve, $\times 120$. *c*, Hinge margin, right valve, $\times 120$. *d*, Muscle scars, left valve, $\times 375$.

Oertliana sp. 1

Plate 79, figs. 13-16

Material. 39 valves, HU 2.J.34.1-39.

Measurements.

	<i>L</i>	<i>H</i>	<i>Hi</i>
Left valve	0.45	0.24	0.38
Right valve	0.44	0.23	0.38

EXPLANATION OF PLATE 79

Figs. 1-12. *Oertliana kimmeridgensis* sp. nov., *Rasenina mutabilis* Zone, Lower Kimmeridgian.

1, Right valve, female, external view, HU 3.J.29.2, $\times 100$. 2, Left valve, female, external view, Holotype, HU 2.J.31.1, $\times 100$. 3, Right valve, male, external view, HU 3.J.29.6, $\times 100$. 4, Left valve, male, external view, HU 3.J.29.7, $\times 100$. 5, Right valve, female, external view, HU 3.J.29.3, $\times 100$. 6, Left valve, female, external view, HU 3.J.29.4, $\times 100$. 7, Right valve, male, external view, HU 3.J.29.17, $\times 100$. 8, Left valve, male, external view, HU 3.J.29.2, $\times 100$. 9, Right valve, male, transmitted light, HU 3.J.29.15, $\times 110$. 10, Left valve, male, polarized light, HU 3.J.29.16, $\times 110$. 11, Carapace, male, dorsal view, HU 3.J.29.9-10, $\times 100$. 12, Carapace, female, dorsal view, HU 3.J.29.11-12, $\times 100$.

Figs. 13-16. *Oertliana* sp. 1, *Pavlovia rotunda* Zone, Upper Kimmeridgian.

13, Right valve, female?, external view, HU 2.J.34.3, $\times 100$. 14, Left valve, female?, external view, HU 2.J.34.2, $\times 100$. 15, Right valve, male?, external view, HU 2.J.34.1, $\times 100$. 16, Left valve, male?, external view, HU 2.J.34.3, $\times 100$.

Description. Carapace elongate, almost oblong shaped. The two valves are equal in size. Anterior end rounded, posterior slightly pointed. Dorsal margin straight and parallel to ventral margin, which is straight or gently concave. The surface of the valve is very finely punctate, almost smooth. There is no eye depression.

Little of the interior of the valve could be observed because of the bad state of preservation. The inner lamella seems to be rather broad, and the inner margin and line of

	OERTLIANA KIMMERIDGENSIS	OERTLIANA sp.1.	OERTLIANA sp.2	OERTLIANA sp.3
PURBECK				?
PORTLAND				
UPPER KIMMERIDGE				
MIDDLE KIMMERIDGE				
LOWER KIMMERIDGE				

TEXT-FIG. 2. The stratigraphical distribution of species of *Oertliana* gen. nov. in north-west Europe.

concrecence probably coincide. The selvage lip is developed on both valves. The hinge is adont; a ridge on the right valve and a corresponding groove on the left. Sexual dimorphism is doubtful.

Occurrence. *Pavlovia rotunda* Zone, Upper Kimmeridgian, Chapmans Pool, Dorset.

Remarks. The muscle scars could not be observed owing to the rather bad preservation, but similarity in shape, hinge, and duplicature with *O. kimmeridgensis* makes it certain that this is a species of *Oertliana*.

Oertliana sp. 2

1955 Ostracod 102, Schmidt, p. 62, pl. 3a, figs. 39, 40.

Measurements. L, 0.45; H, 0.24.

Remarks. Ovoid carapace with very finely punctate surface. The left valve is larger than the right. Hinge adont.

Occurrence. *Oertliana* sp. 2 was described by Schmidt (1955) from boreholes in north-west Germany ranging from the 'Middle Kimmeridgian' to the top of the 'Gigas Schichten', almost the whole of the Kimmeridgian (in the English sense). It occurs both in marine and in brackish sediments. *Oertliana* sp. 2 closely resembles *O. kimmeridgensis* sp. nov., but in side view it appears much more rounded at the cardinal angles. Sexual dimorphism, which is strong in *O. kimmeridgensis*, seems to be absent.

Oertliana sp. 3

1961 *Cytherideinarum* sp. 2, Oertli, Brotzen, and Bartenstein, p. 13, pl. 1, figs. 3a, b.

Measurements. *L*, 0.45–0.47; *H*, 0.26–0.28.

Remarks. Bean-shaped carapace in side view, surface distinctly punctate, anterior and posterior end well rounded.

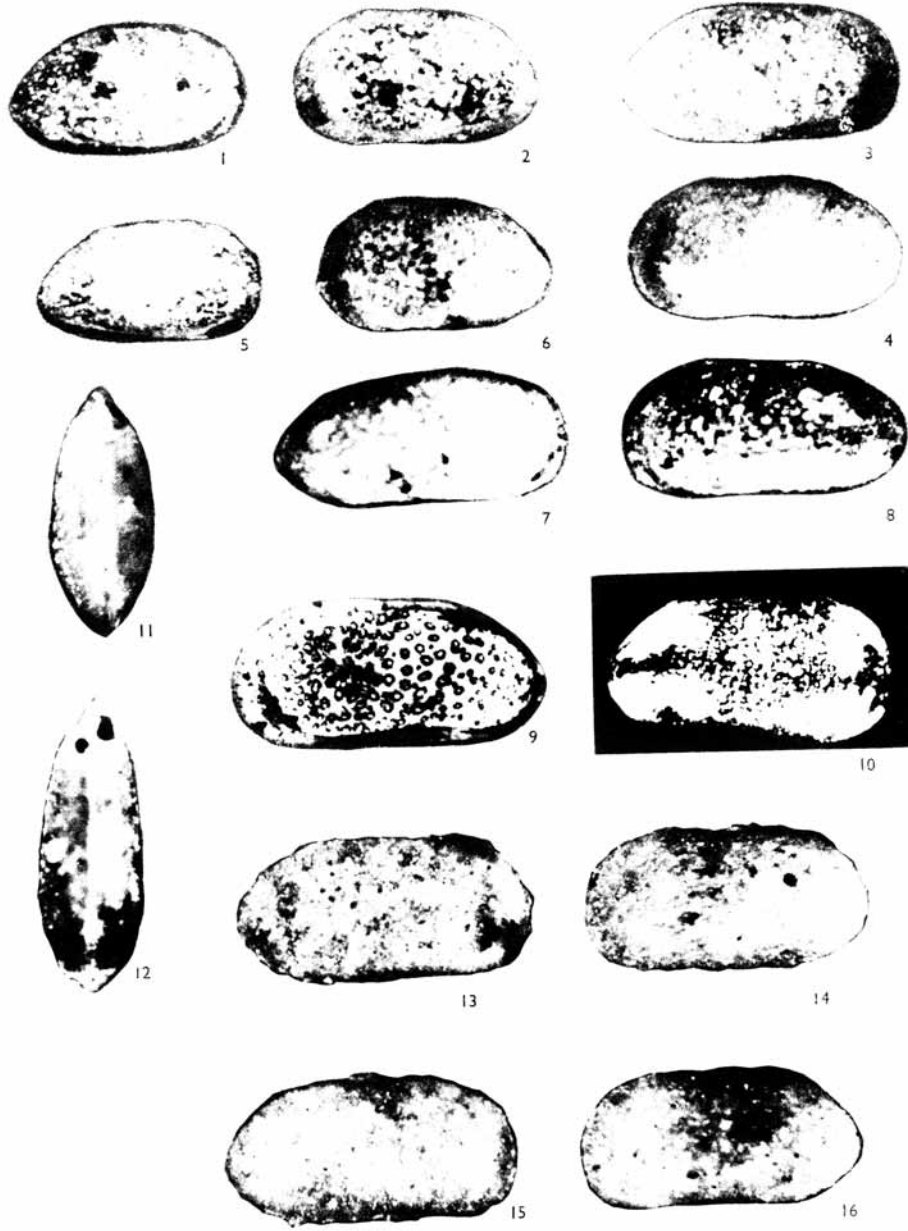
Occurrence. From a borehole at Landskrona (Hilleshog), southern Sweden. The horizon is given by Oertli, Brotzen, and Bartenstein (1961) as Wealden. According to their correlation this is the equivalent horizon to the middle Purbeck in English stratigraphy. The environment is marine-brackish. As the material is rather poorly preserved only the external characteristics are known. *Oertliana* sp. 3 differs from the other species of the genus in its much higher shell.

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Manuscript received 14 October 1964



KILENYI, Upper Jurassic ostracod