

THE TRILOBITE GENUS *OEDICYBELE* FROM
THE KILDARE LIMESTONE (UPPER ORDOVICIAN)
OF EIRE

by J. T. TEMPLE

ABSTRACT. A new species *Oedicybele kildarensis* is described from the Kildare Limestone (Upper Ordovician) of Eire.

THE genus *Oedicybele* Whittington, originally described from the Upper Ordovician of Wales, has subsequently been recorded from Bornholm, Sweden, and Poland by Kielan (1957, p. 170), who rightly considers *Jemtella* Thorslund a subjective synonym. A specimen from the Chair of Kildare Limestone (Upper Ordovician) of Eire in the collections of the Geological Survey and Museum, London (GSM 87363), represents a new species of *Oedicybele* and further extends the geographical range of the genus.

Family STAUROCEPHALIDAE Prantl and Přibyl 1948
Genus OEDICYBELE Whittington 1938

Type species. *Oedicybele kingi* Whittington 1938, p. 446.

Synonym. *Jemtella* Thorslund 1940 (type species: *J. clava* Thorslund 1940, p. 160).

Oedicybele kildarensis sp. nov.

Plate 1, figs. 1-5

Diagnosis. A species of *Oedicybele* with coarse pitting on the cheeks and without genal spines.

Holotype. Cranidium (GSM 87363), the only known specimen, from the Chair of Kildare Limestone, Kildare, Eire. Mr. J. D. D. Smith tells me that nothing is known about its detailed history, but that the accompanying label reads 'Caradoc. Chair of Kildare. *Staurocephalus globiceps* Portlock'.

Dimensions.

Sagittal length of glabella (including occipital ring)	. . . . .	6.3 mm.
Length of glabellar stalk	. . . . .	2.7 mm.
Maximum width of frontal lobe	. . . . .	5.3 mm.
Width of glabella at first glabellar lobes	. . . . .	2.3 mm.
Maximum width of cranidium (at genal angles)	. . . . .	11.9 mm.

Description. Test preserved over much of glabella but missing over parts of both cheeks; occipital ring and furrow incompletely preserved.

Cranidium vaulted, the distal parts inclined steeply down and anterior part of frontal lobe of glabella overhanging. Maximum width of cranidium at genal angles. In dorsal view glabella projects about 2 mm. in front of cheeks.

Axial furrows not deeply incised, diverging only slightly in an outwardly concave curve from basal glabellar lobes to third glabellar furrows; beyond the latter the curve

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of the axial furrows causes them to diverge rapidly around the frontal lobe to a maximum at about half the length (sag.) of the frontal lobe. Axial furrows almost horizontal posterior to third glabellar furrows, but in front they curve gradually down, becoming finally vertical. At about half-way along the sides of the frontal lobe (measured along the axial furrows from opposite the ends of the third glabellar furrows) the axial furrows are deepened into shallow anterior pits (fossulae).

Glabellar furrows and lateral parts of occipital furrow deep, with apodemes. (Much of occipital ring is broken, part of the dorsally convex occipital doublure visible on left.) Lateral part of occipital furrow transverse; first glabellar furrows short, oblique, bifurcating inwards and cutting off small, sub-triangular, swollen, first lobes; second glabellar furrows transverse; third glabellar furrows pit-like and not reaching axial furrows. Outer ends of glabellar and occipital furrows equally spaced. Glabellar stalk reaches above level of cheeks and is roundedly triangulate in cross-section. Crest of glabella is depressed opposite third and second glabellar furrows, the pairs of which are thus connected by shallow transverse grooves; first glabellar furrows apparently share a common transverse depression with occipital furrow.

Frontal lobe of glabella prominent and convex, transversely oval in plan, longer and wider than glabellar stalk but rising only slightly higher, its great apparent convexity being caused by the long vertical and slightly overhanging drop in front and at the sides. Anterior margin of frontal lobe defined by facial suture. Postero-laterally the frontal lobe bears an oblique furrow on each side, lying approximately parallel to and slightly in front of a line joining the third glabellar furrow to the anterior pit, and with the front end of the oblique furrow near the mid-point of this line. The left oblique furrow is slightly concave postero-laterally, the right one sensibly straight. The parts of the frontal lobe between these oblique furrows and the axial furrows have slight independent convexity. A pair of tubercles side by side close together on the third glabellar ring; on the frontal lobe a pair of faint tubercles about 1.5 mm. apart a little in front of the highest point of the frontal lobe, in front of these a row of four faint tubercles, and over half-way from these latter to the anterior margin of the frontal lobe a row of six tubercles fainter still.

Posterior margin of cheek nearly transverse proximally, curving increasingly backwards near the rounded genal angle. Posterior border furrow transverse, sharp and V-shaped proximally, becoming broader near genal angle where it swings slightly back and then forward to form lateral border furrow. Posterior border narrow proximally, widening distally slowly at first and then very rapidly near genal angle. Part of cheek within posterior and lateral borders consists of a gently convex, more or less horizontal, inner part, forming in dorsal view a rough equilateral triangle with straight posterior and convex inner and outer sides, the latter passing rapidly but continuously over into the steeply inclined outer part of cheek. Granular, distally truncated, blister-like palpebral lobe is situated just postero-distal to anterior corner of left cheek triangle (right palpebral lobe is missing). From the palpebral lobe the facial suture which forms the

EXPLANATION OF PLATE I

Figs. 1-5. *Oedicybele kildarensis* sp. nov. Holotype, GSM 87363. Chair of Kildare Limestone (Upper Ordovician), Kildare, Eire. 1, $\times 10$; 2-5, $\times 6$ approx. Specimen whitened with ammonium chloride. The colour contrast on the glabella in fig. 3 is a whitening effect.

margin of the specimen (the free cheeks being missing and unknown) runs backwards in a slightly sinuous oblique line (approximately parallel in side view to the posterior margin of the cheek), and forwards in a short outwardly concave curve to the end of the axial furrow and then arches up as it crosses the mid-line of the cephalon. (On the right cheek, before the test was flaked off during preparation, a faint eye-ridge ran from the axial furrow just behind the anterior pit obliquely forward to a position corresponding to the palpebral lobe on the left cheek.)

Cheeks within posterior and lateral borders bear coarse, closely spaced pits, the polygonal ridges between which are finely granular. Frontal lobe of glabella and posterior and lateral borders of cheeks are finely granular (other parts of test are not well enough preserved to retain ornament). Right cheek bears four tubercles, the most posterior being near posterior border furrow at about mid-width of cheek, another close behind posterior facial suture about mid-way from position of palpebral lobe to border furrow, two others near region of inflection from inner to outer part of cheek. Left cheek is worse preserved but traces of corresponding tubercles are visible, that behind the facial suture being testiferous and less acute than that on the right cheek, which is preserved as an internal mould.

Discussion. Genal spines are found in both *Oedicybele kingi* and *O. clava*, and their absence in the Kildare specimen is the outstanding diagnostic feature of the new species. *O. kildarensis* differs from *O. kingi* also in having coarser pitting on the cheeks and in lacking a median glabellar tubercle on the second glabellar ring; in the latter character it resembles *O. clava*, from which it differs, though, in cross-section (contrast Pl. 1, fig. 5 with Thorslund's pl. 10, fig. 13). The general disposition of tubercles on the frontal lobe (the rows of six, four, and two tubercles) is similar in all three species, and, together with the propensity to develop tubercles on the second and third glabellar rings and on the cheeks, is probably characteristic of the genus; but the extent to which these tubercles are developed is variable—they are, for instance, stronger in most specimens of *O. kingi* than in *O. kildarensis*. *O. kildarensis* alone shows anterior pits, but this is probably because of the excellence of its preservation.

The Chair of Kildare Limestone with *O. kildarensis* is probably Ashgillian in age. *O. kingi* is also an Ashgillian species in Wales, Scandinavia, and Poland. *O. clava*, though, is a much earlier form, coming from the Middle Ordovician (Lower Chasmops limestone—about *Nemagraptus gracilis* age) of Jemtland, Sweden.

The oblique furrows on the frontal lobe of *Oedicybele* are reminiscent of the oblique outer parts of the third glabellar furrows of some Phacopinae (for instance, R. and E. Richter 1926, pl. 9, figs. 51, 52, 61), and although there are no anterior pits in the Phacopinae, there are pits at the outer ends of the oblique third furrows in some other Phacopids. The structure of the frontal lobe of *Oedicybele* may be analogous (if not homologous) to that of the Phacopids, but there seems no doubt that the genus is correctly placed by Kielan in the Staurocephalidae.

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TEMPLE, *Oedicybele*