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Phosphatised olenid trilobites and associated fauna from the Upper Cambrian of Västergötland, Sweden

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Secondarily phosphatised olenid trilobites from organic-rich limestones (orsten) in the Furongian (Upper Cambrian) of Västergötland, south-central Sweden, are described and illustrated. All trilobites originate from the *Peltura scarabaeoides* Zone and were collected on the western slope of Kinnekulle. Only the dorsal exoskeletons have become secondarily phosphatised, and the ventral appendages are not preserved. Yet the material is otherwise remarkably well preserved and reveals the morphology of the olenid trilobites in greater detail than hitherto known. Species belonging to the genera *Ctenopyge, Sphaerophthalmus, Parabolina*, and *Peltura* are identified, and several juvenile specimens are present in the material. The material is disarticulated and fragmentary, and it has only been possible to identify a few specimens to species level. In addition to chaetognaths and conodonts, the trilobites are associated with pelmatozoan columnals, a possible camaroid, and fossils of uncertain affinities. These fossils, along with a probable conulariid fragment from the *Peltura minor* Zone, are also described and discussed. The presence of a benthic fauna of pelmatozoans, and possible conulariids and camaroids, indicates that at least parts of the Peltura zones were deposited during dysoxic rather than anoxic periods. Moreover, the sea floor must have been firm enough to allow colonisation by sessile organisms.

Key words: Olenidae, Trilobita, Problematica, phosphatisation, Cambrian, Alum Shales, Västergötland, Sweden.

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