GeoSuffolk Notes 52

Trilobites – a selection

GeoSuffolk at Ipswich Museum 26.08.14

The name trilobite refers to division of the body into three longitudinal segments, which are distinct in most specimens. The axis is the central part, bounded by the dorsal furrow. The pleural area(s) are the lateral parts of the thorax and pygidium (see below), on the left and right of the axis (individual segments cover jointed limbs).

The body is also divided into three transverse areas – cephalon (head), thorax (main body) and pygidium (tail area). The glabella is the axial part of the cephalon. Genal spines are the backward extension of the postero-lateral corners of the cephalon.

Trilobites grew by moulting (ecdysis), periodically shedding their exoskeleton and producing a larger one to accommodate the growing animal. An individual thus produced a number of potential fossils during its lifetime.

Marine animals, trilobites were abundant in Cambrian and Ordovician times, declined from Devonian times (fish and eurypterids were common and predators) and became extinct during the Permian Age.

Approximate age at middle of period – *million years ago*

Permian	275
Carboniferous	330
Devonian	385
Silurian	430
Ordovician	465
Cambrian	515

Enrolment - *Calymene*, Silurian
Most post-Cambrian trilobites could roll up into a defensive ball. There was a tight fit along the margins of the cephalon and pygidium, but the trilobite could still watch and thus wait until danger had passed.

Distortion – *Angelina,* Ordovician. Porthmadoc, Gwynedd.
The trilobite has been stretched out by tectonic forces metamorphosing shale into slate.

Elrathia, Cambrian. Wheeler Formation, Millard County, Utah, USA.
Shortened glabella; 13 thoracic segments; pygidium has a narrow, flattened border.

Paradoxides, Cambrian. Solva, Pembrokeshire.
Glabella widens forwardly; eyes large; long spines from cheeks (genal spines); pygidium small; numerous (more than 15) thoracic segments.

Olenus, Cambrian. Lingula Flags, Porthmadoc, Gwynedd.
Cephalon broad; glabella short; genal spines present; pygidium small and triangular.

Isotelus (replica), Ordovician. Trenton Falls, New Jersey, USA.
Both cephalon and pygidium have a sub-triangular outline, are equal in size, and have a border (raised in the pygidium); glabella smooth; eyes; absence of pygidial segmentation.
Asaphellus, Ordovician. Sheinton, Shropshire.

Postocular facial sutures curve backwards at their ends; cephalic and pygidial border present; pygidium with pleural areas hardly showing segmentation.

Asaphus (pygidium), Ordovician. Llandeilo Flags, near Dynevor Castle, Llandeilo, Carmarthenshire.
Long axis of pygidium usually shows clear segmentation, but this is indistinct on the pleural areas; labella widens forward; eyes.

Ogygiocarella, Ordovician.
Glabella with slight constriction at about one-third of its length; thorax with narrow axis; pygidium has numerous segments, seen both on axis and pleural areas. Flattened body (? adapted to living on the surface of the seabed).

Trinucleus (cephalon), Ordovician. Llandrindod Wells, Powys.
Wide cephalon; glabella with prominent frontal lobe; blind; flat fringe with pits arranged as radial grooves.

Triarthrus, Ordovician. Utica Shale, Utica, New York, USA.
Exceptionally wide glabella, with two pairs of deep glabella furrows which curve gently backwards; thorax tapers posteriorly to small pygidium.

Cnemidopyge, Ordovician. Pencerrig Lodge, near Builth Wells, Powys.
Glabella extending in front of cephalic margin; has no eyes (blind trilobite); three cephalic spines, one produced anteriorly and the two genal spines longer than the thorax and pygidium together (? the spines may have had a sensory function as the trilobite was blind); thorax of 6 segments; pygidium relatively large, segmented.

Felxicalymene, Ordovician. Hudson River Group, Cincinnati, Ohio, USA.
Glabella tapering forwards; deep glabellar furrows; upturned lip at front of cephalon.

Arctinurus (replica), Silurian. Trenton Falls, New Jersey, USA.
Lobes on glabella; pygidium distinguished by shortened axis and leaflike appearance of pleural lobes.

Bumastus, Silurian. Woolhope Limestone, Scutterdene, near Hereford.
Cephalon and pygidium of similar size, and nearly smooth; eyes; cephalic axial furrows initially converging forwards then expanding in front; thorax of 10 segments, axis practically obsolete.

Encrinurus, Silurian. Locality not known.
Large tubercles on cephalon; forwardly widening glabella; pygidium roughly triangular.

Dalmanites (pygidium), Silurian. Woolhope Limestone, Scutterden Quarry, Hereford.
Pygidium pointed; (cephalon with genal spines; prominent eyes; glabella expands forward).

Aulacopleura, Silurian. Loděnice, Czech Republic.
Small glabella only goes halfway up the cephalon; narrow genal spines; eyes large; pygidium small.

Ananaspis, Silurian. Locality unknown.
Glabella widening forwards; large eyes; thoracic pleura with rounded terminations.

Dipleura (cephalon), (replica), Devonian. Ferruginous Limestone, Lockport, New York, USA.

Shovel-shaped upturned front margin to cephalon; small eyes; (axial region basically lacking on thorax and totally on pygidium).

Hollardops, Devonian. Locality not known.
Glabella widens forward; large eyes; long genal spines; pygidium with extended terminations.

Harpes (cephalon), Devonian. Locality unknown.
Cephalon with broad flat fringe, often extending backwards, and having a surface of fine granules.

Cummingella (pygidium), Carboniferous. Locality unknown.
(eyes large; thorax of 9 segments.)

A Trilobite?
Agnostus, Cambrian. Wheeler Formation, Millard County, Utah, USA,
Cephalon and pygidium similar in outline and size; lacking eyes; two thoracic segments.
Often regarded as a trilobite, some palaeontologists consider it to be a different group of arthropod (jointed limb) animals.

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