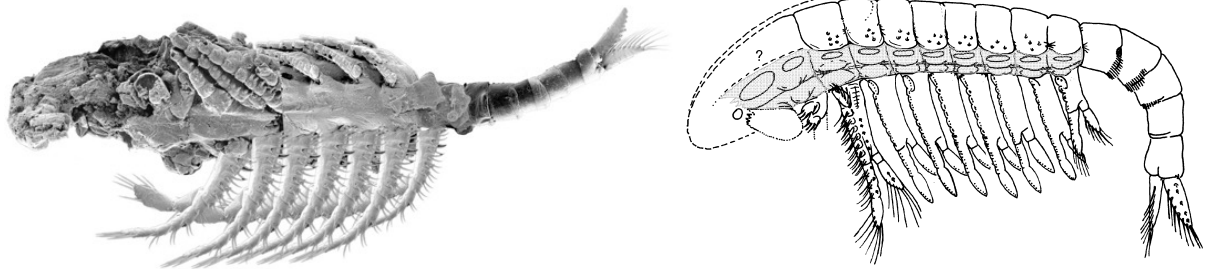


News on the Orsten Research, from the Ulm Team

This page lists current and planned Orsten research activities of Dieter Waloszek

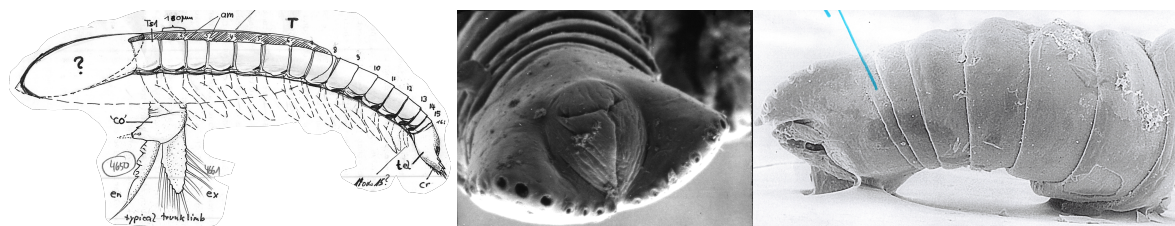
1. Crustacea currently under study

1.1. E crustacea, *Dala peilertae* Müller, 1982



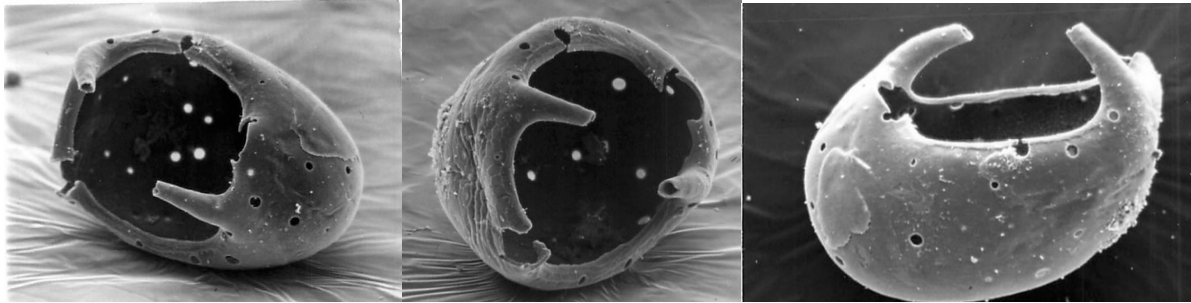
Work on this species had started way back in 2001 during Dieter's first and only sabbatical so far. The biggest problem of this study has remained that there seemed to be no head preserved, at least in a good way for a proper description. After having prepared preliminary image plates and measurements, work was interrupted and is currently under re-study, yet not any text written. Particularly, more measurements have to be made, after I discovered some variability of several features: setal pattern on the thoracopodal endites, fringe pattern of the abdominal segments, and the pattern of sensilla on the tergites. And, at least four specimens possess remains of the head region – though badly preserved. Yet the material belongs to a single species and the idea is upheld that the species is another entomostracan/eentomostracan taxon, possibly representing the sister taxon to all other/known Maxillopoda. With this, *Dala peilertae* will also have a significant input to the discussion about the validity of Maxillopoda and its in-groups.

1.2. Workname "Svionia brevifurcalis" Form with broadly bifurcated tail end" or broad taily



The animal is more than strange because it has inarticulated caudal rami, unclear if already furcae, and the trunk is made of about 16 segments, possibly most with appendages. Regrettably neither the head and the appendages are or well enough preserved for a profound discussion. Yet, I will try to do more on this animal, because also this form has a significant impact on the understanding of the ground pattern of E crustacea/Entomostraca. Since these in-group e crustacean taxa are heavily questioned, particularly because of the claim "not supported by molecular data", but complete ignorance of ontogenetic and morphological and palaeontological data, we aim, with this description, at providing good new data to improve argumentation. This shall, hopefully, help supporting a well-founded phylogeny of the Crustacea and underpin the monophyly of Entomostraca as the sister taxon to Malacostraca, further.

1.3. The "Funny Bag"



This funny structure may not be a real animal but strange as it is it reveals similarities to larvae of certain crustaceans – and again of the maxillopodan clade. The front has, namely, pores in a symmetrical order and parts of the cap show a fine surface ornamentations resembling a cellular pattern, as is typical of the shields of the larval shields of these crustaceans, the facetotectans and ascothoracidans. We shall see.....

2. "Stem Arthropods" (derivatives of the stem lineage of Euarthropoda or early members of Arthropoda s. l.), particularly the fossil understood by us as the sister taxon to modern Tardigrada

This project was a long-lasting co-operation with Reinhardt Kristensen, Copenhagen, Denmark. May be one day it will be brought to an end, poor tardy baby! More soon.



3. Other research activities

Odds and ends (isolated legs, strange fragments, non-arthropods, e.g. sponges, putative echinoderm larvae) from the Swedish, Siberian and Australian 'Orsten'-type lagerstätten

The large material of the Swedish 'Orsten' contains numerous specimens of unclear affinities. Numerous isolated limbs belong to arthropods surely not described yet. They shall be documented step by step to demonstrate the variation in the material, plasticity of life forms and the species abundance in the 'Orsten' meiofaunas. At present we estimate that the upper Middle Cambrian to Furongian 'Orsten' of Sweden comprised more than 50 different species, so that 'Orsten' occurrences, although "just representing a window into the meiofauna", will have a species record as high as the other Cambrian lagerstätten. At least part of this was investigated by Christopher Castellani for his dissertation/thesis. First papers were prepared, e.g. about sponges or cyanobacterians, but then he disappeared and the chances that the manuscripts will be finished are but low.