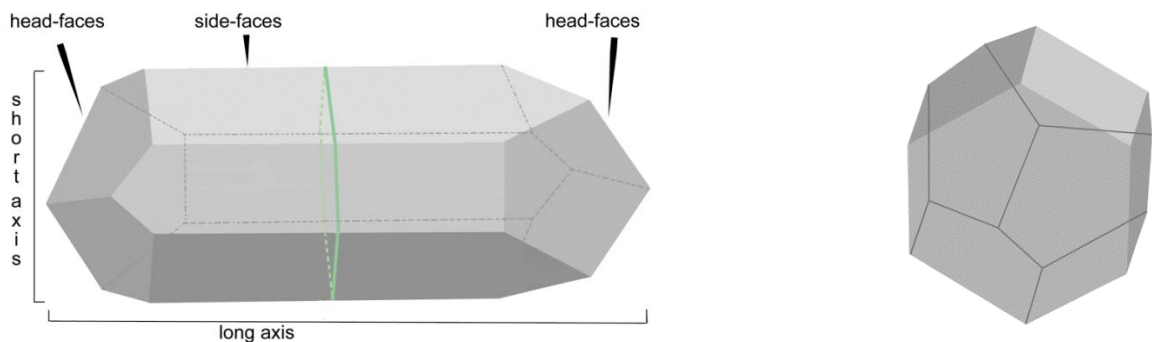
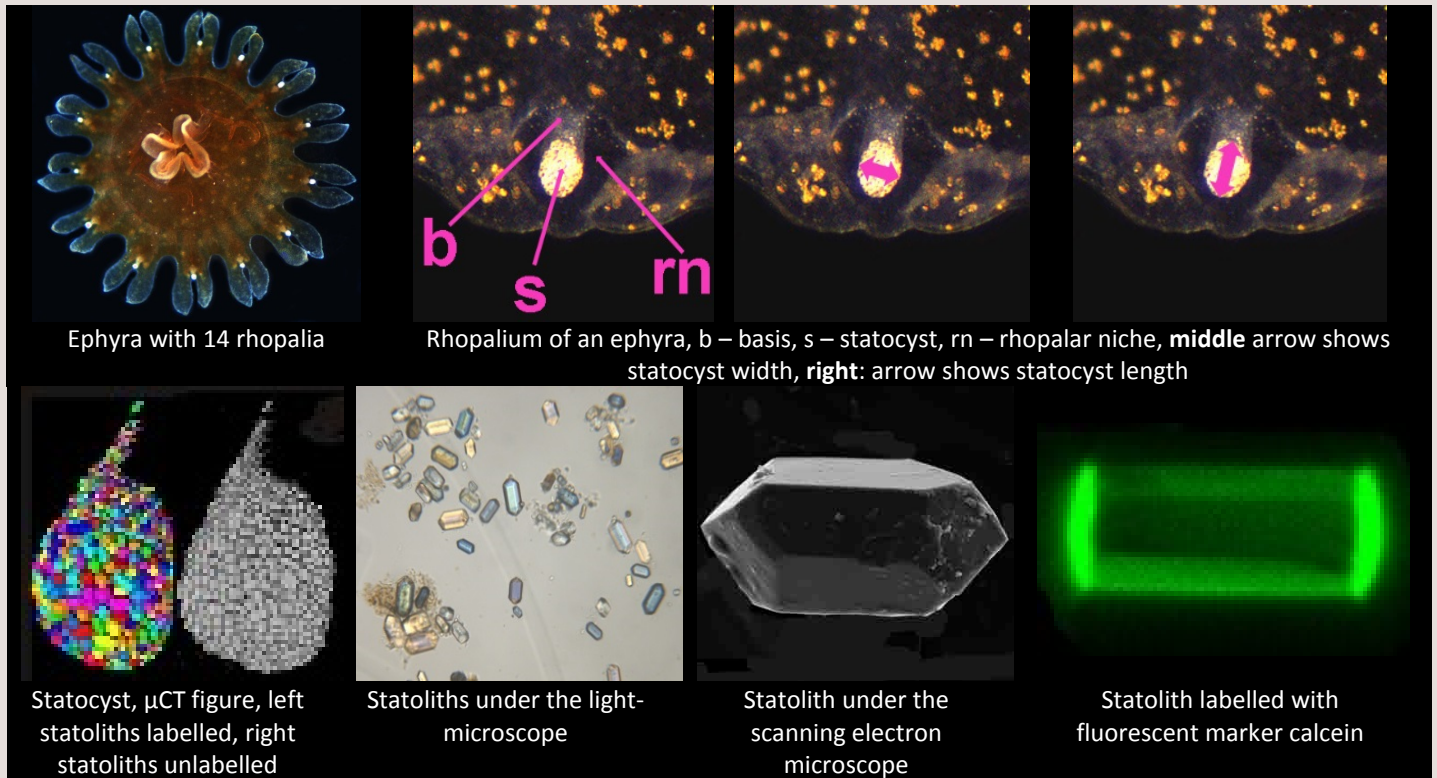


Statocysts and statoliths of Scyphozoa

Scyphozoans have complex sense organs (rhopalia) responsible for photoreception, equilibrium reception and sensory responses to other stimuli such as touch, chemicals and temperature. The rhopalia are located at the marginal rim of the bell; each rhopalium consists of a proximal basis and a distal statocyst. The statocyst serves together with sensory cilia as equilibrium sense of the medusa. The statocyst contains several up to thousands crystals (statoliths) consisting of calcium sulfate subhydrate (basanite). The crystals have a trigonal shape (habit) and their crystal faces are indexed as $\{3\ 0\ 2\}$ (headfaces) and $\{1\ 0\ 0\}$ (sidefaces).



Statolith diagrams, **left** green line shows cut through short-axis of the statolith, **right** view on cut-plain of the statolith short axis

References

- Tiemann H, Sötje I, Jarms G, Paulmann C, Eppele M, Hasse, B** (2002) Calcium sulphate hemihydrate in statoliths of deep-sea medusae. *Journal of the Chemical Society, Dalton Transactions* 1266-1268
- Sötje I, Neues F, Eppele M, Ludwig W, Rack A, Gordon M, Boese R, Tiemann H** (2011) Comparison of the statolith structures of *Chironex fleckeri* (Cnidaria, Cubozoa) and *Periphylla periphylla* (Cnidaria, Scyphozoa): a phylogenetic approach. *Marine Biology* 158: 1149-1161.
- Holst S, Michalik P, Noske M, Krieger J, Sötje I** (2016) Potential of X-ray micro-computed tomography for soft-bodied and gelatinous cnidarians with special emphasis on scyphozoan and cubozoan statoliths. *Journal of Plankton Research*
- Sötje I, Dishon T, Hoffmann F, Holst S** (accepted) New methods of morphometric analyses on scyphozoan jellyfish statoliths including the first evidence for statolith growth using calcein as a fluorescent marker. *Microscopy & Microanalysis*