Breeding instruction
Artemia spec.

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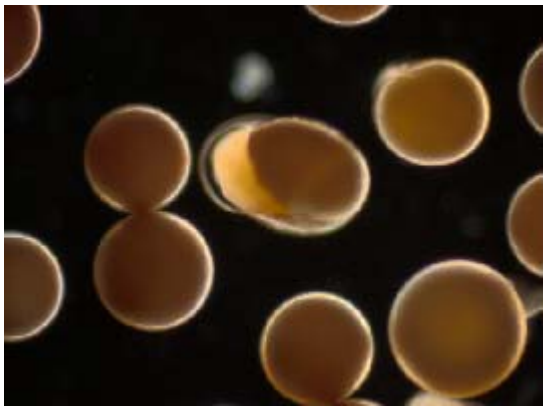
not yet hatched cyst "egg"
diameter: 250 µm (brightfield)



the cyst has burst, the embryo is ready to leave the hull of the cyst (chorion) (dark field)

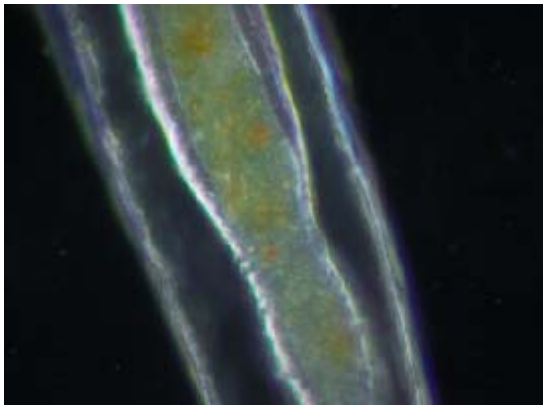
the embryo is still surrounded by the egg membrane, but has almost left the chorion (dark field)

empty hull of the cyst, (dark field)

the embryo has left the chorion, but is still surrounded by the membrane (dark field)

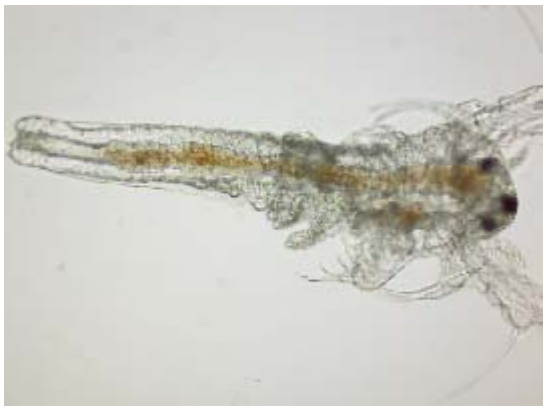
1st day: new hatched nauplius with one eye,
length: 550 µm (phase contrast)

9th day (the speed of development strongly dependents on the temperature - the animals in this series were reared at 18-20°C) length: 900 µm (brightfield)



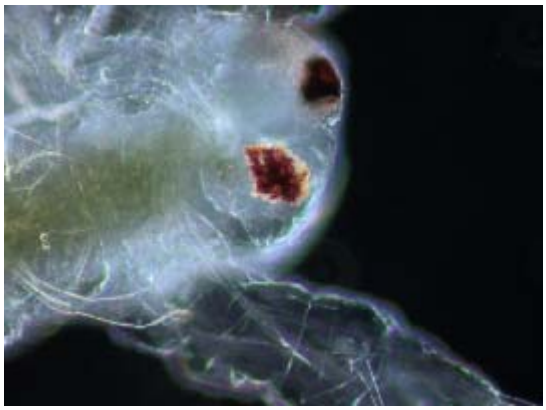
9th day: much of the gut content consists of half-digested Phaeodactylum tricornutum (dark field)

13th day: the rowing legs are developing, also both compound eyes are formed,
lenght: 1,200 µm (brightfield)



17th day: the rowing legs are clearly forming,
lenght: 1,500 µm (brightfield)

17th day: the bristles of the legs are clearly showed.
(dark field)



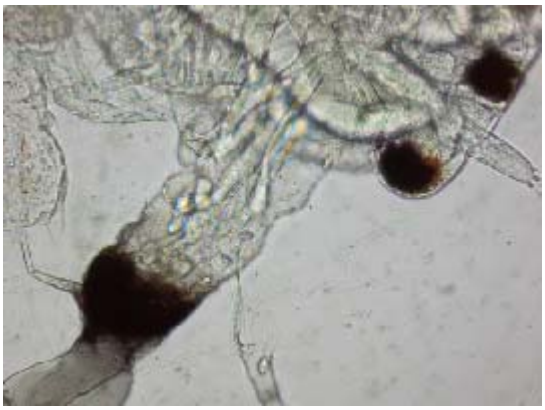
17th day: one of the both compound eyes (mid) and the nauplius eye (top) (dark field)

21st day: you can see the gills of the legs.
length: 2,000 µm (brightfield)

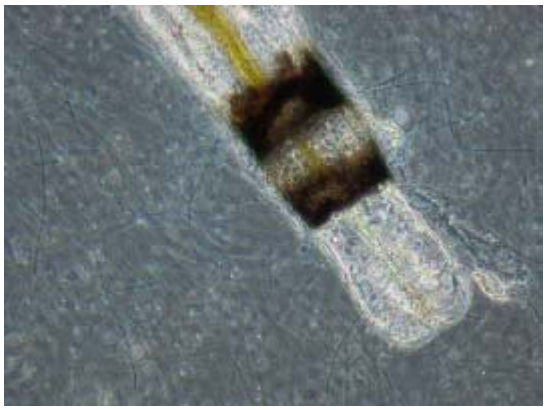
39th day: total length 10,500 µm,
cut of the head (brightfield)

39th day: cut of the egg bag;
diameter of the eggs about 185 µm (brightfield)

Subadult Artemia in a zooplankton tube fed with
the diatom *Phaeodactylum tricornutum*



Maldevelopment of the second antenna with
pure *Nannochloropsis salina* diet



Maldevelopment at the abdomen with
pure *Nannochloropsis salina* diet

Version	06.2012
Species	*Artemia* spec.; following species are described, but usually named with *A. salina*: *A. tunisiana*, *A. franciscana, A. parthenogenetica*, *A. sinica, A. persimilis, A. urmiana*
Family	Artemidae / Anostraca / Branchiopoda
General discription	Probably the most widely used zooplankton. All stages of this species may be fed: de-cysted eggs, fershly hatched nauplii and adult.
Size	freshly hatched nauplius about 500 µm; adults 10...15 mm; subitan egg 185 µm; others sizes possible depending on origin (species / subspecies)
Ingredients	The ingredients of brine shrimp is heavily influenced by food; after 8 hours of feeding *Nannochloropsis salina*, the HUFA concentration increased significantly (56.5% compared with newly hatched A.) compared to the 3, 6, 24 hours samples with EPA = 8.05% = 14.15% AA, DHA = to 1.85% (CHAKRABORTY et al. 2007);
Colour of culture	depending on food: green, red, brown
Effort of cultivation	simple; but it needs lots of space or alternatively a good filtration for ammonia detoxification

Characteristic of cultivation	Feeding with micro algae: *Nannochloropsis salina* (possible but not optimal: maldevelopment is possible), *Phaeodactylum tricornutum* (very suitable), Xxx-8 Feeding with yeast: Attention! Aeration should never fail;otherwise the culture dies quickly
Cultivation in	zooplankton tube aquarium sea water pond
Lighting	not necessary, but additional algae growth is beneficial (food and oxygen supply)
Aeration / circulation	weak...extremely strong; animals develop to adultus also in strong currents
Range of pH value	
Range of temperature	loves it warm
Range of salinity	simple to multiple sea water concentration
Range of oxigen	tolerates low oxygen concentrations below 1 mg/l
Kind and concentration of medium	conventional sea water or salt water; heterotrophic growth of *A. salina* with glucose is lower compared to *Brachionus plicatilis* (LI et al. 1993)
Backup culture	not necessary; animals will be hatched at any time form cysts ("eggs")
Suitable for feeding	big fish larvae and adult fish, jellyfish, etc. (depending on size of development)