Zooplankton -

An overview about breeding zooplankton

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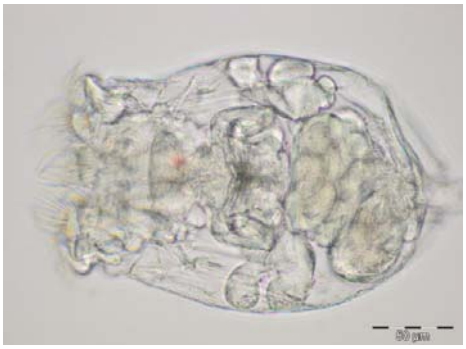


Brachionus plicatilis L-type (rotifer)

Artemia-Nauplie (hatched)

Artemia „salina“ sub-adultus

Requirements for breeding zooplankton

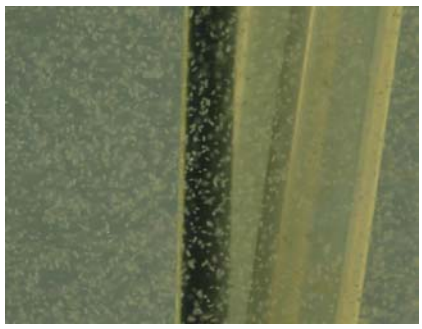
To get high-quality zooplankton normally a phytoplankton breed is necessary. It is possible to feed zooplankton with substitutes (e.g. yeast), but important ingredients like high unsaturated fatty acids (HUFA) are missing or their composition is in a poor combination. Only if zooplankton has perfect combination and concentration of all essential ingredients fish larvae or others will grow without malformations. To cultivate phytoplankton the overview about breeding phytoplankton may help. Only some additional things are needed:

- Plankton screens with 50 to 150 µm, to catch the wanted zooplankton organisms;
- additional breeding flasks or tanks;
- a sheltered place (far away from algae cultures) to prevent contamination of the algae culture with their "enemies";
- equipment for enrichment the zooplankton (concentrates of essential substances like vitamins, fatty acids, minerals, antioxidants).

Artemia „salina“ fed with *Phaedactylum tricornutum* in a zooplankton tube

Enrichment of feeder animals

Even if zooplankton is fed with high-quality micro alage it makes sense to enrich the zooplankton with essential ingredients before feeding. Many of the dissolved substances penetrate during enrichment throught the body of the zooplankton (see refrigerator method) or are actively incorporated by the organisms (flask method). Both methods are quoted from MAI 2004.



Brachionus plicatilis (fed with *Nannochloropsis salina*) in a zooplankton tube (the vertical stick has a diameter of 3 mm)

Refrigerator method (for very fresh hatched nauplia, that cannot eat)

1. Fresh hatched nauplia (e.g. *Artemia*) should be best concentrated: poor the culture through a 100-150 µm screen and wash the remaining nauplia with very less water from the screen).
2. Mix them with enrichment food (see MAI 2004) - the

proportions have to be determinde by yourself.

3. Spread the nauplia-pulp in a flat flask with cover, e.g. petri dish.
4. Store it for 24...48 hours in a refrigerator and feed the living nauplia to your larvae. Never feed dead zooplankton!

Flask method (for older nauplia, that ingest food actively)

1. Concentrate 24...36 hour old *Artemia* nauplia and wash them from the screen with less sea water; fill them into a clean *Artemia* flask.
2. Add an enrichment concentrate (see MAI 2004) - the proportions have to be determinde by yourself.
3. After 6...8 hours (not longer for *Artemia*; for others the time may vary) the nauplia are well-fed and should be fed to the larvae.
4. You can use surplus nauplia later on by a new enrichment process.