

Artemia Resources and International Cooperation

Patrick Sorgeloos & colleagues

- Laboratory of Aquaculture & Artemia Reference Center, Ghent University, Belgium
- INVE Aquaculture & INVE Technologies SA, Dendermonde, Belgium

Workshop for Aral sea Artemia project end users - Tashkent, November 7, 2005



ARTEMIA

female brine shrimp

male brine shrimp

1 cm





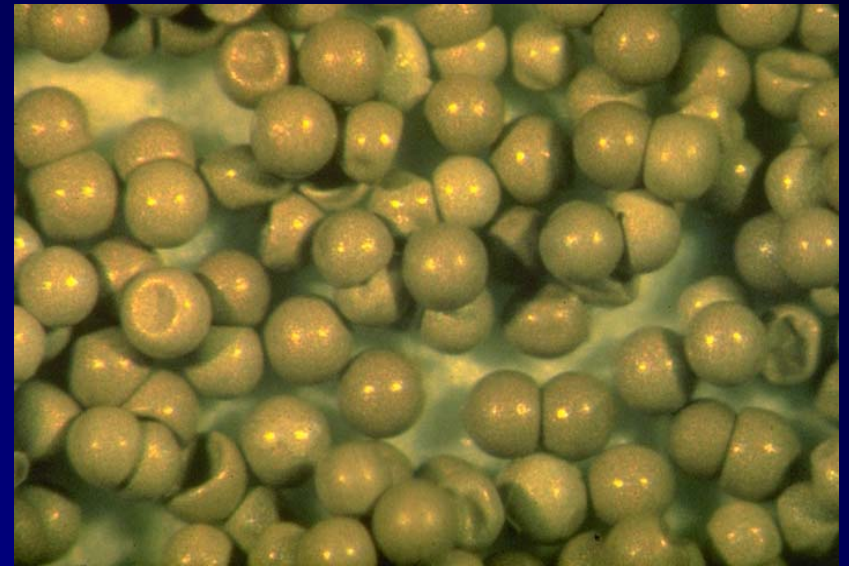
solar saltwork (salina)
Port Araya, Venezuela



Urmia Salt Lake
Iran



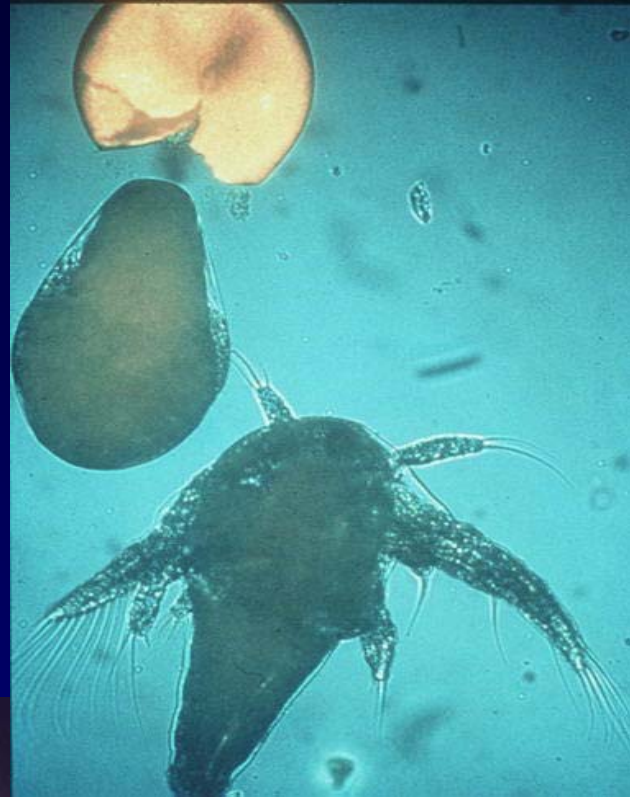
biomass



cysts



Asian sea bass larva feeding on *Artemia*



shrimp postlarva feeding on *Artemia*

Natural distribution of *Artemia*



Dispersion

birds
wind
man





Commercial availability of Artemia cysts

Varying characteristics of Artemia strains



Hatching: H%, HEff, biomass



nutritional value



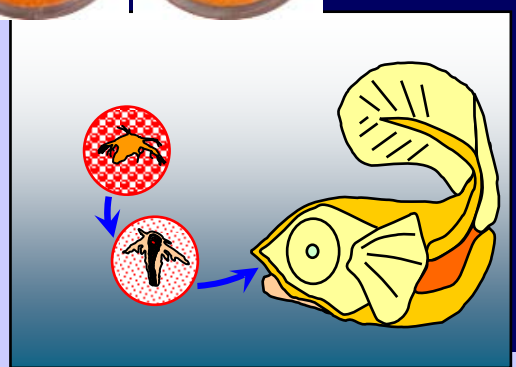
Decapsulation features



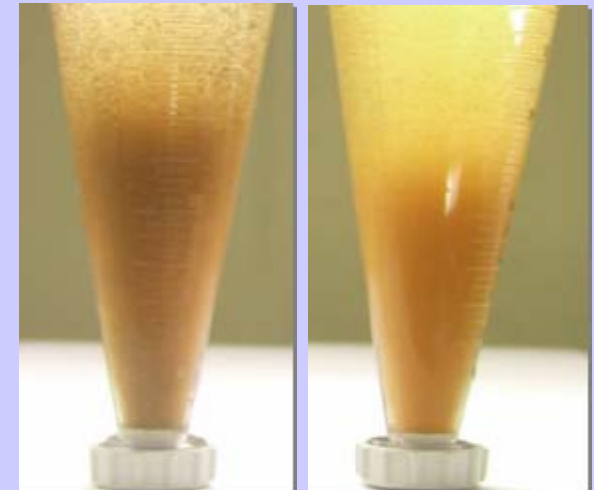
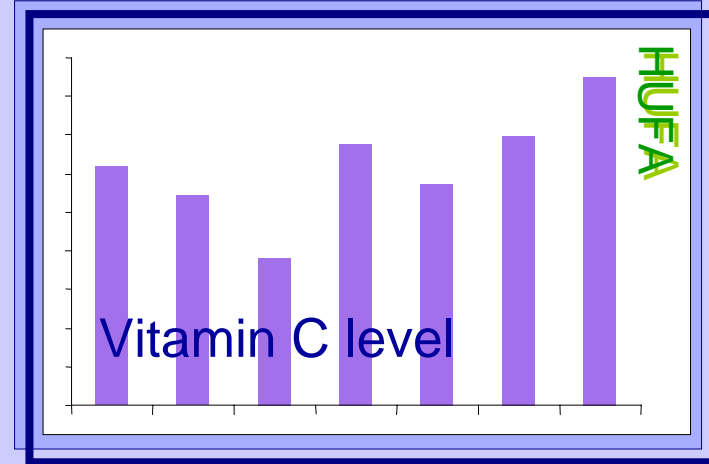
pigmentation of the nauplii



Enrichment



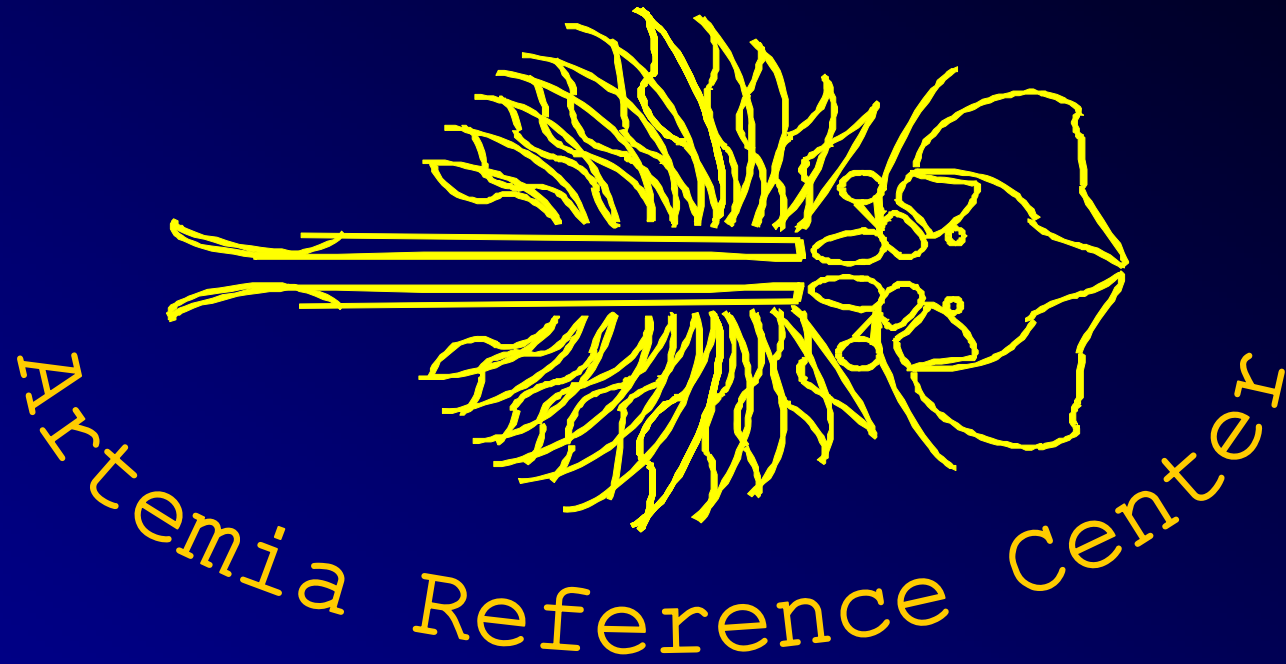
separation of nauplii and unhatched cysts



Fluctuations in lake cyst production



- Artemia life history characteristics
- population density & mode of reproduction
- harvest period:
 - weather conditions
 - policy restrictions
- harvesting problems:
 - sinking
 - contamination with biomass
 - accessibility



established in 1978 upon suggestion of the FAO

INTERNATIONAL STUDY ON ARTEMIA - ISA

international interdisciplinary study of *Artemia* strains

INVE Artemia Task Force



Tasks

Objectives

- | | | | |
|---|---|---|----------------|
| ✓ | <u>Site surveys & explorations worldwide</u> | → | identification |
| ✓ | <u>Ecological studies</u> | | sustainability |
| | <ul style="list-style-type: none"> - population dynamics - contact | | |
| ✓ | <u>Technical and economical studies</u> | | feasibility |
| | <ul style="list-style-type: none"> - accessibility, sustainability, quality, etc. - characteristics of the resource relevant to larviculture, ... | | |
| ✓ | <u>Exploitation of the resource (harvest, processing, ...)</u> | → | production |

**diversification & stabilization
of the Artemia supply**

INVE Artemia Task Force



Diversification & stabilization of the Artemia supply



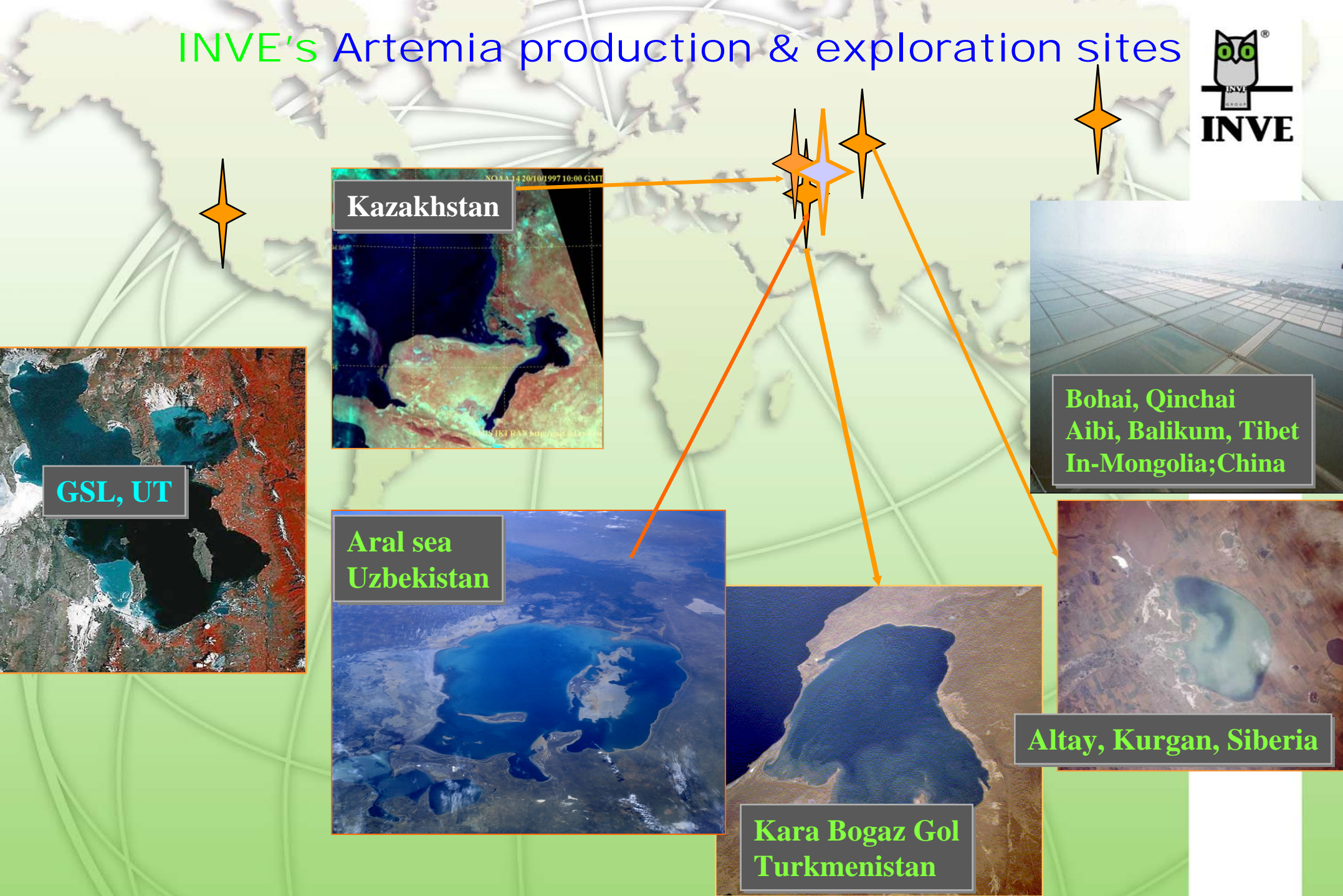
*multi-disciplinary
approach*

Tasks

- ✓ Site surveys & explorations worldwide
- ✓ Ecological studies
- ✓ Technical & economical studies
- ✓ Exploitation

- in-house expertise
- universities, specialized laboratories
- local partners: public & private institutes, companies, ...

INVE's Artemia production & exploration sites



Kazakhstan



GSL, UT



Aral sea
Uzbekistan



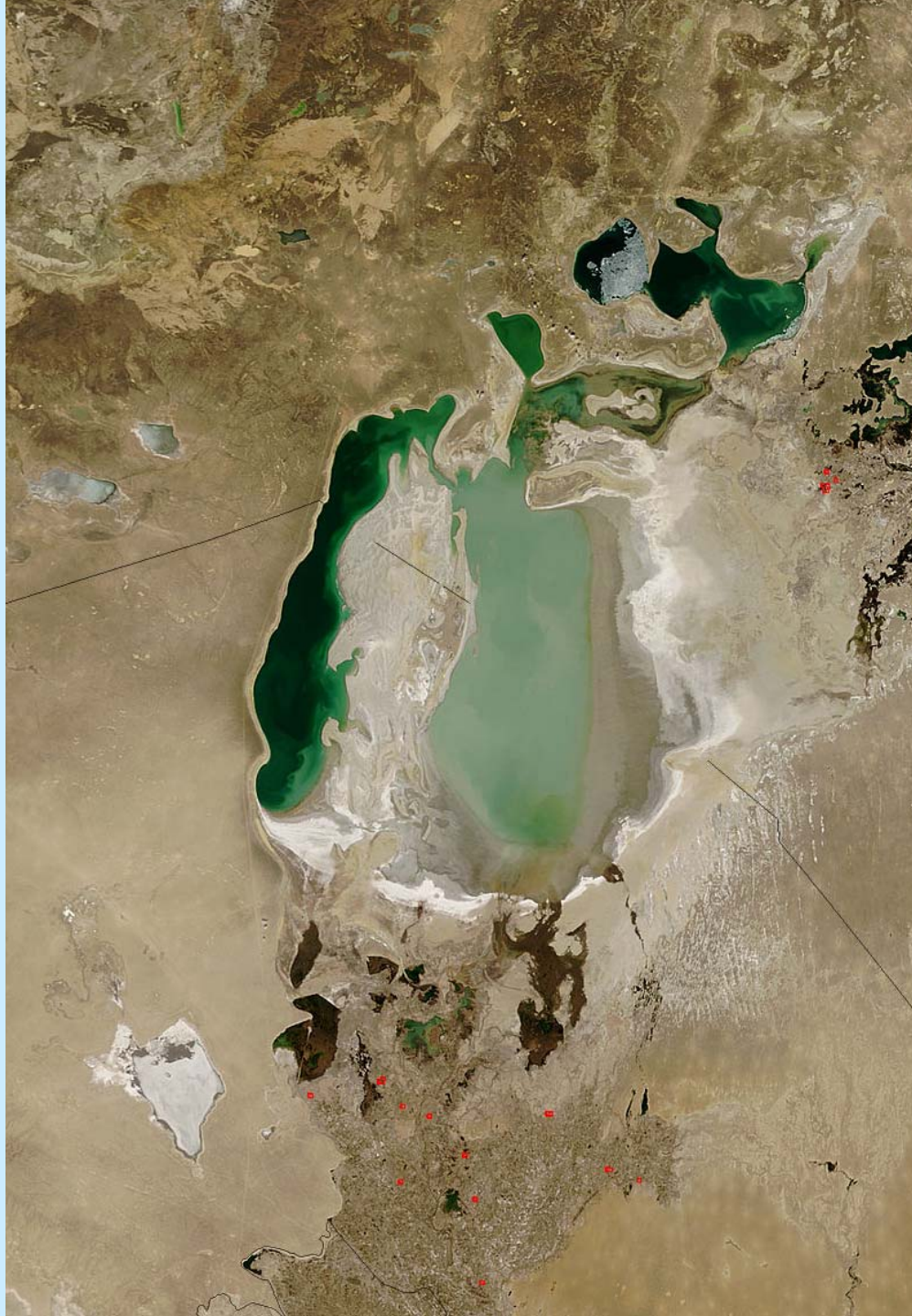
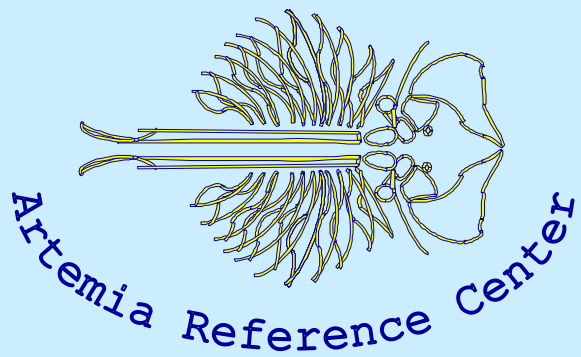
Kara Bogaz Gol
Turkmenistan



Bohai, Qinchai
Aibi, Balikum, Tibet
In-Mongolia; China



Altay, Kurgan, Siberia



INVE

Advanced Solutions
for animal rearing