

# OVERVIEW OF VIBRIOSIS IN SEA BASS (*DICENTRARCHUS LABRAX*) AT CROATIAN FARMS

Snježana Zrnčić, Dražen Oraić  
 Laboratory of fish and molluscs diseases  
 Department of Pathology,  
 Croatian Veterinary Institute, Zagreb, Savska 143

## CROATIAN MARICULTURE

Started in early 70 together with similar projects in France, Italy  
 Annual production about 6000 tons  
 30 farms on 47 localities  
 Sea bass (*Dicentrarchus labrax*) Sea bream (*Sparus aurata*) Meagre (*Argyrosomus regius*) Dentex (*Dentex dentex*)



16th EAFP Conference, Tampere, 4th Sept 2013

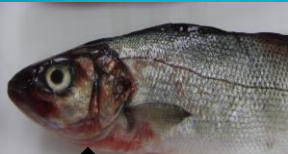



Cultivation of both species is managed through 2 big, industrial producers while others are small, family owned farms with production up to 150 tons/year

16th EAFP Conference, Tampere, 4th Sept 2013


- Due to development of massive production in other Mediterranean countries and decrease of prices on the common market profitability of production became questionable
- Increase of production and stocking density generate spreading of diseases and they became major limiting factor in production
- Although there were epizootics of several bacterial diseases like Tenacibaculosis, Vibriosis caused by *Listonella anguillarum* serotype 01 and Pasteurelosis, vibriosis still remains the most devastating bacterial disease in Croatian mariculture

16th EAFP Conference, Tampere, 4th Sept 2013





All categories with similar symptoms:

- Haemorrhages on the skin, opercula, gills, around the mouth, on the fin basis, in the eye, uni or bilateral exophthalmia
- Subacute course with massive haemorrhages on the abdominal wall
- Chronical course with deep lesions in musculature even ulceration

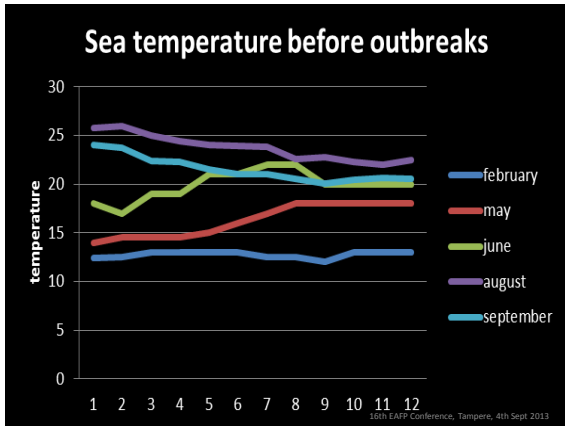


16th EAFP Conference, Tampere, 4th Sept 2013



Dissection reveals haemorrhages on the liver, stomach, intestine, peritoneum, intestines are often filled with slimy content, in pronounced course enlarged spleen  
 Typical mortalities for bacterial diseases – from few specimen per day to several hundreds, in total up to 45-50 % if treatment was not initiated at the proper time

16th EAFP Conference, Tampere, 4th Sept 2013



Environmental conditions:

- Increase of the sea temperature and net replacement during this period (may)
- Windy weather during hot summer weather which provoke decrease of the sea temperature (august)
- Several days of hard rain with abundant inflow of fresh water (september) and transparency of the sea was reduced
- Until recently winter outbreaks were usually without any pathological changes on the internal organs, but now, winter outbreaks are similar to all other and very often complicated by infection with *Tenacibaculum maritimum*

16th EAFF Conference, Tampere, 4th Sept 2013

### Diagnostics

- Clinical symptoms
- Isolation of bacteria on TSA supplemented with 1,5 % NaCl, Marine agar and TCBS
- Identification on the API 20 E combined with standard biochemical tests (generally all isolated strains shared similar properties (difference in sugar fermentation – arabinosis and amygdalin)
- Commercial agglutination kit

16th EAFF Conference, Tampere, 4th Sept 2013

### Antimicrobial susceptibility

Disc diffusion method – in last few years number of resistant *L. anguillarum* isolates increased and therefore we have started the surveyance programme of antimicrobial resistance at the marine fish farms for most often used antimicrobials (potentiated sulphonamides, oxytetracycline, flumequine and flofphenicol) by means of disc diffusion test and minimal inhibitory concentrations (MIC)

16th EAFF Conference, Tampere, 4th Sept 2013

