Health status of cultured common carp in Croatia
Emil Gjurčević, Krešimir Matanović, Snježana Kužir
The data presented are a result of long term veterinary surveillance performed on several fish farms in Croatia.
VIRAL DISEASES

• SPRING VIRAEMIA OF CARP
  
  *Rhabdovirus carpio*

• CARP POX
  
  Cyprinid herpesvirus 1  (CyHV-1)

• KOI HERPESVIRUS DISEASE
  
  Cyprinid herpesvirus 3  (CyHV-3)

KOI SLEEPY DISEASE  - not examined

  Carp edema virus
SPRING VIRAEMIA OF CARP

ISOLATION OF THE VIRAL CAUSATIVE AGENT FROM THE ACUTE FORM OF INFECTION DROPSY OF CARP

N. Fijan, Z. Petrinec, D. Sulimanović and L. O. Zwillingberg

Nikola Fijan (1931 – 2009)

Figures 1–4. Lesions in carp inoculated intraperitoneally with Rhinobocirus carpio from cell cultures. Fig. 1. Pale gills, bleedings in anterior kidney, liver and gas bladder, hemorrhagic exudate, peritoneal adhesions on the caudal fins, widened and transparent intestine. Fig. 2. Bleedings in anemic gills. Fig. 3. Bleedings in muscles. Fig. 4. Bleedings in the anterior wall of the gas bladder.
VIRAL DISEASES

- **CARP POX**
  - not detected since 2008

- **KOI HERPESVIRUS DISEASE**
BACTERIAL PATHOGENS

• Atypical *Aeromonas salmonicida*
  the etiological agent of carp erythrodermatitis

• Motile *Aeromonas* infections
  *Aeromonas sobria*
  *Aeromonas hydrophila*

• *Pseudomonas fluorescens*
BACTERIAL PATHOGENS

- *Flavobacterium columnare*
  the etiological agent of columnaris disease
BACTERIAL PATHOGENS

TREATMENT

• **ANTIMICROBIALS**
  - oxytetracycline
  - flumequine

• **DIETARY SUPPLEMENT**
  - β-glucan
• **Saprolegnia sp.**

• **Dermocystidium koi**
  - first report in Croatia in 2008
  (GJURČEVIĆ et al., 2008)
• CILIATES

Ichthyophthirius multifiliis
Chilodonella sp.
Trichodina sp.
Apiosoma sp.
Epistylis sp.
• **APICOMPLEXANS**

*Goussia carpelli* (COCCIDIAN ENTERITIS)

*Goussia subepithelialis* (NODULAR COCCIDIOSIS)
COCCIDIANS

CONTROL

- Draining, drying, freezing and liming
- Anticoccidial drugs - effective but not approved

(MOLNÁR and OSTOROS, 2007; GJURČEVIĆ et al., 2017)
• **MYXOZOA**

*Sphaerospora renicola*

*Myxobolus cyprini*

*Myxobolus dispar*

*Thelohanellus nikolskii*

*Thelohanellus hovorkai*
Thelohanellus hovorkai
- first report in Croatia in 2015
  (GJURČEVIĆ et al., 2015)
METAZOAN PARASITES

• MONOGENEAE
  Dactylogyrus sp.
  Gyrodactylus sp.
  Eudiplozoon nipponicum
METAZOAN PARASITES

• DIGENEA

*Diplostomum spathaceum*

*Posthodiplostomum cuticola*

*Clinostomum complanatum*
• DIGENEA

*Clinostomum complanatum* - first report in Croatia in 2014

(GJURČEVIĆ et al., 2014)
METAZOAN PARASITES

• CESTODA

Bothriocephalus acheilognathi
Caryophyllaeus fimbriceps
Khawia sinensis

Atractolytocestus huronensis
- first report in Croatia in 2012
  (GJURČEVIĆ et al., 2012)

CONTROL

• Draining, drying and liming
• Antihelminthics
  Niclosamide - effective but not registered
METAZOAN PARASITES

• ARTHROPODA
  
  *Argulus foliaceus*
  
  *Lernea cyprinacea*

• ANNELIDA
  
  *Hemiclepsis marginata*
NON-INFECTIONOUS DISORDERS

• SKELETAL SYSTEM DEFORMITIES
NON-INFECTIONOUS DISORDERS

• SKELETAL SYSTEM DEFORMITIES
• **ALAMPIA**
  - variation in fish pigmentation
THANK YOU FOR YOUR ATTENTION