



## ***Newsletter No. 13***

**May 2015**

Welcome to another newsletter. No doubt you will be looking forward to better weather now that spring is here.

### **Fish Veterinary Society Conference, 24<sup>th</sup> & 25<sup>th</sup> March, Norton House Hotel, Edinburgh Airport**

We have just had our conference, and this year was a bit special, as it marks the 25<sup>th</sup> anniversary since the first meeting in Glasgow, although there were earlier meetings from which our society could have said to have originated. I found this meeting very interesting, and partly inspired me to get into aquaculture. Some of the original members are still around, and were there this year, including our outgoing president, Jimmy Turnbull, and past president Ronnie Souter. Some of the originals, however, such as Mary Brancker and Edward Branson, are sadly no longer with us.

It was also decided to have a theme this year, and that theme was parasitic diseases. That certainly gave plenty of scope for discussion.

It is perhaps appropriate that the conference was opened by one of the speakers at the 1990 meeting, Hamish Rodger, who gave a keynote presentation summarising 25 years of parasite control. In fact, Hamish went further back, to the 1970s, and the early days of the Institute of Aquaculture, introducing some of the people involved (which apparently included James Bond, licensed to study lice) over the years. He finished up with the present problems such Amoebic Gill Disease, Desmozoon, and sea lice treatments. So, the conclusion was that we had made a difference, but still had some way to go!

Sara Picon-Camancho was next up to speak on the control of White Spot. The causal organism (Ichthyophthirius or “Ich”) has a complex life cycle, and understanding this lifecycle is necessary to devise better control strategies using treatments, coating tank surfaces, and biological control by algal feeders.

Pieter Van West then asked if Saprolegnia was a primary or secondary pathogen, and concluded that it was the former. This mould kills about 10% of salmon eggs and 10% of hatched salmon, so has a major impact. It has the second largest number of proteases of any known organism, and uses them to attack eggs and fish tissue.

The morning session was finished off with poster introductions from the students. It was decided that although the students are sponsored, they would not get a free lunch, but had to produce a poster and stand up before the conference and introduce it. However, they all did very well, and one even gave us a rap rendition! I must say that I was impressed by the quality of all the posters.

After lunch, Matthew Green told us about diseases of shellfish, from *Bonamia* to *Martellia*, and gave us a case study on Oyster Herpesvirus type 1 (OsHV-1) along with *Vibrio aestriianus*.

Cleaner fish are being used more and more to control lice, but they have their own problems. Lump-suckers and wrasse are susceptible to a variety of diseases, including *Pasteurella*, atypical *Aeromonas salmonicida* and *Tenacibaculum*. A vaccine (Alphaject Micro 4) has been brought out for cleaner fish, but the results are unclear at present.

After coffee, Ian Armstrong gave us a rundown in advances in tarpaulin treatments. There has been a move away from wellboat treatments to using tarpaulins. As cages have got bigger, there has been an increasing use of 22,000 litre ISO (International Standards Organisation) containers of hydrogen peroxide instead of the 1,000 litre IBC (Intermediate Bulk Container). There have also been developments in dispersal of peroxide in the tarpaulin, as “hot spots” of high concentration can cause problems.

We all know that parasitic diseases have a welfare cost, but what is their financial cost? Giuseppe Paladini came up with some eye watering numbers, based on lost production, mortality and treatments. He estimated that the cost of sea lice to Scotland at £37 million annually, and AGD at £54 million. The total cost is between £682 million to £2,478 million – a lot of money!

Sandra Adams told us about progress in diagnostic tests for aquaculture, from the now seemingly ubiquitous PCR (Polymerase Chain Reaction) test through Lateral Flow Devices (LFD) to bead arrays and microarrays. Some are useful in the lab or even in the field (read pond/cage side), but some are not economic for use in aquaculture.

The day was finished off with the clinical club. Richard Hopewell told us an account of a Sleeping Disease outbreak in Rainbow trout, and Stephanie Grimmett presented some spinal pathology cases from the USA.

That finished off the day's scientific proceedings. Time to get ready for the conference dinner. Norton House Hotel again gave us a good dinner, which was followed by a speech by Neil Robertson and the prize giving. The winner of the student poster was Catherine Poullin on AGD and mussels. John McArdle won the Fish Veterinary Society for the best paper in the Fish Veterinary Journal, and Willie Wildgoose was presented with a gift for his time as treasurer. Randolph Richards replied for the delegates.

Day 2 meant a 9 AM start. Ronald de Boer started off on parasites of zebrafish, of which there are a variety, from "Ich" to the nematode *Pseudocapillaria* and the protozoan *Pseudoloma*. Besides welfare concerns, these diseases can interfere with results of experiments, and in the case of *Mycobacteria*, can affect staff health. Zebrafish eggs are routinely treated with chlorine to reduce parasite burden, and Panacur (fenbendazole) is used to treat endoparasites. This can be dosed into Artemia.

Matt Longshaw then gave an excellent summary of eye parasites found in fish, of which there are quite a variety. Some of the papers describing the parasites were a bit vague as to where the parasite was in the eye, or whether it was doing the host real harm.

Iva Dykova had come all the way from Czech Republic to speak on freshwater Amoebic infections. Various types of amoebae have been observed, isolated and cultured. Of these, *Naeglaria* (causing Nodular Gill Disease in freshwater) and *Neoparamoeba perurans* (cause of AGD) are proven pathogens.

Jason Partridge came on next to discuss the imminent demise of formaldehyde for the aquaculture industry. This September, its use as a biocide for fish will be banned unless a case is made to defend it to EU.

After lunch and the group photo, it was AGM time. Jimmy summarised the year's activities, but said that we were facing a crisis, as so many of the society were retiring from the committee

that the future of the society was in doubt. Willie Wildgoose retired as treasurer, to be replaced by Chris Walster, with much of the financial work farmed out to an outside company. Matt Metsaalar joins as Junior Vice President, and Tony Wall is being dragged out of retirement to be interim president. Jimmy is standing down as president, and Neil Robertson is standing down from the committee because he will no longer be based in UK.

After more coffee to take help take all this in, Sean Monaghan told us about vaccines against parasites. This is not easy, as the antigens are “hidden” from the host’s immune system. However, a few have been produced, notably against the cattle tick *Boophilus*, but also against Marine White Spot. However, a clinical vaccine against sea lice is still some way off.

Richard Hopewell told us about his trials on gut evacuation in Rainbow trout pre-harvest. Fish were starved at different times of year to give a range of temperatures, and sampled at various points during the process. He concluded that the average time was 55 degree days, so the recommended time of 72 hours will only result in empty guts if the temperature is above 18.4°C.

Alan Tinch finished off the conference by telling us about Landcatch Natural Selection’s work on using genetics to improve disease resistance in fish. This involved identifying stretches of DNA called Quantitative Trait Loci (QTLs) which confer resistance to a specific disease in individuals, and breeding from those families. They got good results for IPN, and are working on resistance against sea lice and AGD, which is not quite as heritable. Other diseases, such as resistance against Pancreas Disease and Caligus) are in the pipeline. And they are always ready for the next TLD (Three Letter Disease).

So, another successful and interesting conference, where we managed to cobble a committee together again, even had a rap presentation. And we got good weather again!

David Sutherland