

WORKSHOP

# Emerging skin diseases in aquaculture

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## Introduction

Within the last decade skin diseases have become a major challenge for rainbow trout (*Oncorhynchus mykiss*) aquaculture in Europe and mariculture in the Mediterranean. The causes of these conditions remain largely elusive, however. A workshop was organised to focus on recent advances for some of the more notable skin disease problems affecting these aquaculture industries, namely red mark syndrome (RMS) and puffy skin disease (PSD) in rainbow trout and petechial rash (PR) in sea bream (*Sparus aurata*) and sea bass (*Dicentrarchus labrax*) and also some other skin diseases that are starting to emerge in Mediterranean aquaculture species. The target audience for the workshop was researchers with an interest and/or research focus on fish skin diseases or who had an interest in emerging fish diseases/pathogens.

The workshop comprised 6 presentations and a discussion session. This report gives a short summary of each of the presentations and the resulting comments and discussion.

## Emerging skin diseases in rainbow trout

The first three presentations focused on different aspects of RMS.

The first presentation was given by Niels Henrik Henriksen, from the Danish Aquaculture Organisation, (Abstract 197-O<sup>1</sup>), who provided an overview on the status of RMS in Danish rainbow trout fish farms. He started by explaining that Danish trout farmers experienced very few skin problems in their stock before 2010 and problems that did occur were mainly seen during hot summers. For example, some

outbreaks of warm water strawberry disease (WWSD) had been noted. Between 2013 and 2015, however, the incidence of skin problems in rainbow trout culture increased, particularly the incidence of RMS, although some incidences of PSD and WWSD were also observed. RMS is normally seen in fish 50g or larger, especially when water temperatures are below 15-18°C. In 2015 questionnaires about RMS, PS and WWSD were sent to 172 Danish fish farmers, of which 56% replied. Out of these 34% had observed skin problems in their stock. The current perception of RMS is that it is still a growing problem and is probably the biggest disease challenge currently facing the Danish rainbow trout industry. When a RMS outbreak occurs it tends to persist on the farm for some time, with typically 10-20% of fish showing clinical signs at any one time. The visually unappealing appearance and the

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