

NOTE

Pseudomonas anguilliseptica associated with mortalities in lumpfish (*Cyclopterus lumpus* L.) reared in Scotland

J. W. Treasurer^{1*} and T. H. Birkbeck²

¹ FAI Farms, Ardtoe Marine Research Facility, Ardtoe, Acharacle, Argyll PH36 4LD; ² University of Glasgow, Institute of Infection, Immunity and Inflammation, Sir Graeme Davies Building, 120 University Place, Glasgow, G12 8TA

Abstract

Lumpsucker, *Cyclopterus lumpus*, larvae were reared successfully in a Scottish marine hatchery but, following a period of exceptionally high hatchery water temperatures of over 16.5°C, bacterial infections occurred. This was associated with *Ps. anguilliseptica*, a *Photobacterium* sp. and *Aliivibrio logei*. The infections were successfully controlled by oxytetracycline treatment.

Sea lice (*Lepeophtherius salmonis* and *Caligus elongatus*) continue to pose major health issues for the European salmon farming industry and biological control using cleaner fish such as wrasse and lumpfish (*Cyclopterus lumpus* L.) is being actively used in an integrated approach to sea lice management (Treasurer, 2018). Various health issues have been found to affect larval survival in the hatchery, including bacterial diseases caused by atypical *Aeromonas salmonicida*, various vibrios and a *Pasteurella* species (Fiskehelserapporten, 2014; Alarcón et al., 2016). The bacterial flora of marine finfish reared in the present hatchery has been studied for several species and a diverse range of pathogenic and benign bacterial species, predominantly vibrio species (Verner-Jeffreys et al., 2003; Reid et al., 2009), have been isolated. The present study

reports on bacterial infections during the first year of rearing lumpfish at a hatchery in Scotland.

Lumpfish were reared at the marine finfish hatchery on the west of Scotland from eggs supplied from an English Channel stock near Weymouth. Eggs were stocked at a density of 70 eggs L⁻¹. The larvae hatched from 18 March 2014 after an incubation period of 270 degree days and were maintained in 1.5 m diameter 80 cm deep circular black tanks of 1300 L volume. Flow through water, supplied from a seawater pumped source, was passed through sand filters, de-gassed, and treated with UV light in a Hanovia unit at 300 mj, and then gravity fed to the rearing tanks. Water temperature at hatch was 8.6°C rising steadily to a summer peak of

* Corresponding author's email: jim.treasurer@faifarms.com