

FIRST OBSERVATION OF *YERSINIA RUCKERI* IN DENMARK

By I. DALSGAARD, J. FROM AND V. HØRLYCK

In August 1983 The Danish Trout Culture Research Station investigated a disease problem in a rainbow trout farm in Mid-Jutland. The fish farm was not registered free from VHS. The following clinical symptoms were observed: Haemorrhages in the eyes, ulcerations in the mouth region and haemorrhages in the mouth cavity.

Although the haemorrhages in the eyes could be due to a VHS infection the overall symptoms suggested a bacterial infection. The affected fish weighed on average 150g and the water temperature at the onset was approximately 16°C. The anterior kidney from 4 fish was sampled aseptically for bacteriological examinations. The samples were kept in Stuarts Transport Medium (Oxoid). The initial cultures were made on blood agar incubated at 20°C for 48 h. The inoculated plates showed a pure growth of one colony type. The bacteria were sensitive to sulphonamides, nitrofurantoin and tetracyclines. Identification of the bacteria was done at the Fish Disease Laboratory.

The organism was shown to be a Gram-negative rod, fermenting glucose in O/F medium. Diagnosis was made biochemically. The biochemical reactions were very similar to those of *Yersinia*

ruckeri, the redmouth (RM) bacterium described by Ewing *et al.* (1978) and Green & Austin (1983).

Ten rainbow trout (app. 200 g) were inoculated intraperitoneally with 1 ml of a saline suspension of the isolated bacterium containing approximately 1×10^8 organisms/ml. All ten fish died within 2 to 3 days without showing any clinical symptoms. The bacterium was reisolated from kidney, liver and spleen.

The trout farm was visited again at the end of September 1983, the water temperature was at that time 12°C. Samples of the anterior kidney from five moribund fish were taken. A pure culture, identified as *Yersinia ruckeri*, was isolated from all 5 fish. The infection did not cause heavy mortality.

Further bacteriological studies are in preparation.

References

- Ewing, W.H., Ross, A.J., Brenner, D.J. & Fanning, G.R. (1978): *Yersinia ruckeri* sp. nov., the Redmouth (RM) Bacterium. Int. J. Syst. Bacteriol. 28, 37—44.
- Green, M. & Austin, B. (1983): The identification of *Yersinia ruckeri* and its relationship to other representatives of the Enterobacteriaceae. Aquaculture 34, 185—192.

Authors' addresses:

I. Dalsgaard,
The Danish Institute for Fisheries and Marine Research, Fish Disease Laboratory, The Royal Veterinary and Agricultural University, Bülowsvej 13, DK-1870 Copenhagen V, Denmark.

J. From & V. Hørlyck,
Danish Trout Culture Research Station, Broens, DK-6780 Skaerbaek, Denmark.