

SIERRALTA CHICHIZOLA, VERONICA. ANAMARIA. 2011. Estado situacional de *Yersinia ruckeri* causante de la enfermedad entérica de la Boca Roja en trucha Arco Iris *Oncorhynchus mykiss* (Walbaum, 1792) en piscigranjas de la sierra central del Perú - 2008.

ABSTRACT

The enteric red mouth disease, caused by the pathogen *Yersinia ruckeri*, has a great impact on salmonid culture worldwide. This bacteria was first found in Peru in 2004 in rainbow trout, *Oncorhynchus mykiss*, cultures in the department of Junin.

The objective of this study was to evaluate the status of the pathogen *Y. ruckeri* on intensive cultures of *O. mykiss* (rainbow trout), in three fish farms of the central highlands of Peru in 2008.

From culture of internal organs a total of 30 strains of the pathogen were isolated, which were characterized through biochemical assays in order to identify using conventional methods and the API 20E system. The diagnosis confirmation included agglutination serological reactions on plates using standard antiserum and "Dot Blot" assays using O antigen from the isolates. Using the API 20E system, 17 isolates showed the numeric profile 5104100 and another 11 showed the numeric profile 5105100; however 2 isolates showed the numeric profile 5107100 (*Hafnia alvei*, 93,3%). Biochemical differences were found with the Voges-Proskauer and gelatin hydrolysis assays. All of the isolates were typified as *Y. ruckeri* serotype O1 subgroup a, sorbitol-fermenters. The Kirby-Bauer technique, as per the National Committee for Clinical Laboratory Standards (NCCLS, 2005), was used to run the antibiotic sensitivity tests against nalidixic acid (30 ug), oxolinic acid (1 ug), ampicillin (25 ug), streptomycin (10 ug), florfenicol (30 ug), flumequine (30 ug), furazolidone (100 ug), gentamicin (10 ug), oxitetraciline (30 ug) and sulfatrimethoprim (25 ug). 100% of the pathogens were sensitive against all of the antibiotics used in the testing.

The most common external signs were: bilateral exophthalmia (31%), skin melanosis (20%) and distended vent (17%). Among internal signs, there were: lower intestine tract congestion (35,1%), pyloric ceca congestion (32,5%) and pale liver (18%). In the histopathological study, the most frequent lesions were: in the gill, edematous lamellae (47,2%); in the heart, severe inflammatory reaction at the ventricle (44,4%); in the liver, fat degeneration (47,2%); in the spleen, markedly congestion (55,6%); in the posterior kidney, scarce haematopoietic tissue (25%); in the pyloric ceca, severe necrosis of epithelium of mucosal (27,8%) and intestine with severe necrotic microvilli (44,4%). The frequency of infection by *Y. ruckeri* in symptomatic animals was 85,5% in fish farm C,

64,7% in B and 15,4% in fish farm A. Factor influencing in the frequency of infection in symptomatic animals was rainy season.

We concluded that enteric redmouth disease is widely spread in fish farms in the central Peruvian Andes.