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A NEW WINTER DISEASE IN SEA BREAM (*SPARUS AURATA*) : A PRELIMINARY REPORT

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Abstract

A preliminary report of a mortality in farmed sea bream in the Adriatic associated with an unidentified Enterobacter.

During the winter of 1994-95, a major mortality occurred on a farm rearing sea bream farm located on the Adriatic coast in the Venetian lagoon (Italy).

The water temperature was between 6 and 8°C and salinity of 25 ppt; under such conditions the fish do not eat. The fish concerned were 1 year old with weight ranging from 80 to 110g and the stocking density was less than 1 fish per 5l, stocked in 3 tanks of 150 m^3.

Only dying fish were taken to the laboratory for study. (Fig.1). In one tank the total mortality reached 50 % but the average of all three was 15 %.

All fish presented small and large ulcerated cutaneous lesions with tumefacions and reddening around the mouth and at the base of the fins. The abdomen was distended due to an abundant ascitic fluid. At autopsy, the liver appeared discoloured and enlarged. The spleen was enlarged with small white-

Table 1 : Characteristics of Enterobacteriacee isolated from sea-bream (+ positive reaction - negative reaction)

Gram stain	-
morphology	small rod
oxidase	+
urease	-
lysine decarb.	-
ornithine dec.	-
indole prod.	-
esculin	+
fermentation	+
mannitol	+
maltose	+
trehalose	-
malonate	-
saccharose	-
palatinose	+
coumarate	+
colistin	-
tetrathionate	-

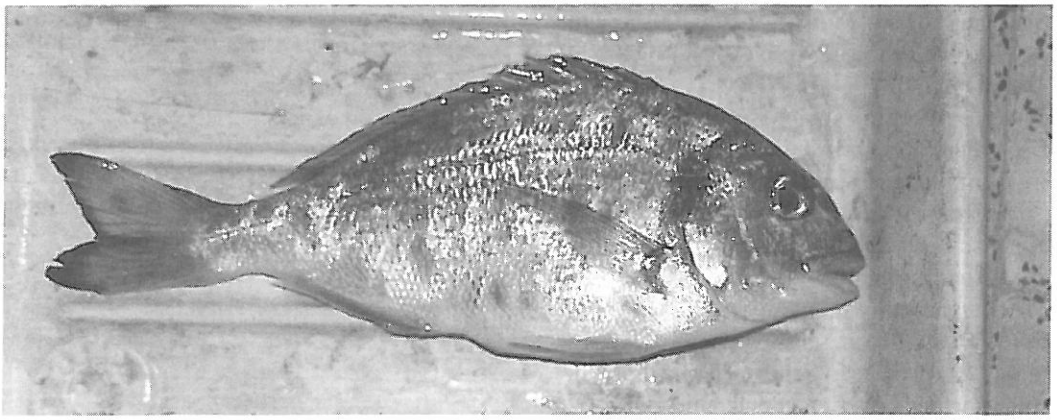

Figure 1 . An affected sea bream showing external lesions

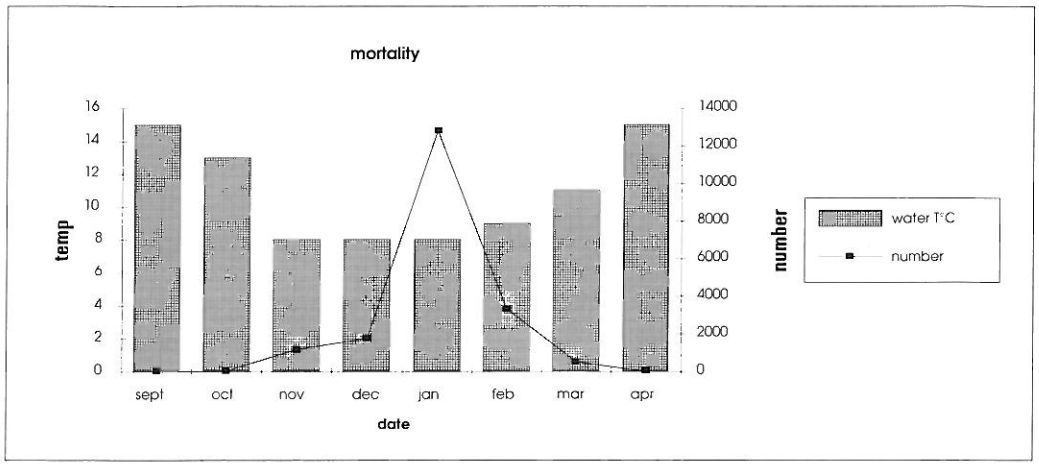

Figure 2 Mortality and temperature in sea bream (*Sparus aurata)*

grey petechiae . In some cases the kidney was enlarged with petechial haemorrhages on the peritoneum .

Samples from liver, kidney and skin lesion were streaked onto Trypticase Soy Agar, Trypticase Soy Agar with blood plates (TCBS) and incubated at room temperature (22°C).

After 48 h the plates exhibited large amounts of bacterial growth with small white colonies. On blood TSA haemolysis was evident around the colonies. TCBS. was negative.

The motile small rods were Gram negative and oxidase positive.

The BIONOR^{R} AQUARAPID Pp test system was negative for *Pasteurella piscicida* as were the AQUARAPID Va for *Vibrio anguillarum* and the AQUARAPID As for *Aeromonas* sp.

Biochemical characteristics of this bacterium were determined using conventional tests and API rapid ID 32 E (BioMerieux) (Table 1). Drug sensitivity to antibiotics was tested by the disc diffusion method on Muller Hinton agar. All the initialt analyses indicate that the organism is a member of the family Enterobacteriaceae however additional serological tests are needed to confirm this.

The numerical profile from API was 02100600002 . Drug sensitivity tests, indicated that Flumequine and Trimethoprim-sulphamethoxazole were useful antibiotics.

Flumequine (20%) in water at 3 l / m^3 combined with Tween 20 (2 ml / m^3) for a hour/a day for one week controlled the mortality.

However when it was only possible to medicate the fish orally with flumequine in feed (when water temperature rose to >11°C), the mortality was reduced (Fig. 2) rather than halted.

We suggest a) environmental improvement with reduction of organic load b) use of flumequine in feed or c) formalin baths to reduce the possibility of secondary infection of parasite.

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