PARASITES OF RED BAND FISH (*Cepola rubescens*) FROM DUNDRUM BAY, NORTHERN IRELAND

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Introduction

Red band fish are a deep-water fish that live in mud burrows from Scotland to Morocco and the Mediterranean Sea. Whilst they have a wide geographical range, they have a localised, patchy distribution. A fishery exists for this species, and whilst there is data on its biology and behaviour, there remains a lack of knowledge concerning its parasite fauna. This poster reports on the parasite fauna of this species from a small sample collected close to Dundrum Bay, Northern Ireland.

Materials and methods

Eleven red band fish (Figure 3) were caught in Summer 2003 using standard trawl gear on the RV CEFAS Endeavour (Figure 1) from an offshore site close to Dundrum Bay, Northern Ireland. Immediately after capture, tails were removed and the remainder of the fish, including head and visceral organs were fixed in either neutral buffered formalin or ethanol. Following return to the CEFAS Weymouth Laboratory, fish were examined for parasites. All organs, including stomach, intestines, liver, gonad, kidney, gall bladder, spleen, gills and eyes were screened for metazoan and protistan parasites. For SEM studies, parasites were fixed in gluteraldehyde, processed using standard methods and examined on a JEOL 5210 SEM.

Acknowledgements

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Figure 1: RV CEFAS Endeavour

Figure 2: *Contracaecum oscalatum* isolated from the viscera of red band fish caught in Dundrum Bay

Figure 3: Red band fish, *Cepola rubescens*

Figure 4: SEM of dorsal view of whole *Anchistrotos onosi* (Copepoda) isolated from the skin and gills of red band fish

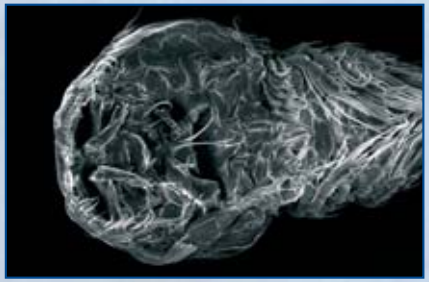

Figure 5: SEM of ventral view of cephalothorax of *Anchistrotos onosi* (Copepoda) isolated from the skin and gills of red band fish

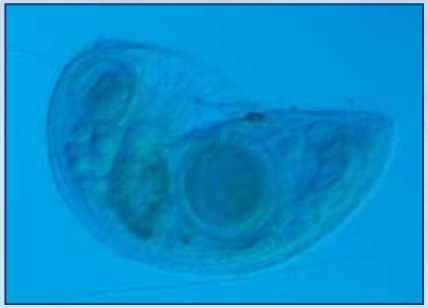

Figure 6: Unidentified juvenile digenean from the intestine and stomach of red band fish

Figure 7: *Caligus* sp. from the stomach of red band fish. It is likely that this parasite was ingested as a food item.

Results

A total of three parasite species were found including *Contracaecum oscalatum* (Nematoda) (Figure 2) on the viscera and liver (prevalence 100%, abundance 51.3) *Anchistrotos onosi* (Copepoda) (Figures 4 and 5) on the skin and gills (prevalence of 100%, abundance 45.38) and unidentified juvenile Digenea (Figure 6) in the intestines and stomach (prevalence 100%; abundance 6.23). No protistans, myxozoans, monogeneans, cestodes or acanthocephalans were found within these fish despite specifically searching for them. In addition, 5 fish contained partially digested *Caligus* sp. in the stomach (Figure 7).

Discussion

This is, as far as we are aware, the first report of the parasite fauna of red band fish in the Irish Sea. A new host record for the copepod *A. onosi* is provided. This parasite has previously been reported on five-bearded and four-bearded rocklings. It is clear from the data provided, that these fish have a very depauperate parasite fauna, represented by only three species. This may reflect the lifestyle of red band fish, which tend to live in mud burrows and have a restricted diet composed mainly of pelagic copepods. Transmission of the digeneans and nematodes is presumed to occur through this route. Red band fish are physiologically adapted to survive under the hypoxic conditions of the burrow. Given that *A. onosi* also occur on the fish in these burrows, it follows that the copepod parasites must also be adapted for these harsh conditions.

The burrows of red band fish are known to intersect those of other fish species in the near vicinity. The presence of partially digested *Lepeophtheirus* sp. in the stomach, which were not found on the skin of these fish, appear to have been taken in as a food source. It is not known if red band fish have a symbiotic relationship with other fish in burrows and can thus act as cleaner fish or if the caligids were eaten during a free swimming stage.

It is noteworthy that red band fish in Dundrum Bay have a restricted parasite fauna. It would be interesting to compare the parasite fauna of this host across its geographical range to see if the high abundance and high prevalence noted during the current study is a general feature of this host. The reasons for the lack of other major parasite groups in the sample also warrant further research.

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