days of storage at this temperature. With respect to the myofibrillar protein myosin heavy chain, it was showed that, in sea bass muscle, this protein may degrade even at very low temperatures of storage. The results of this study offer new knowledge on the protein changes in fish muscle proteins during *post mortem* storage at different temperatures. However, further investigations are needed in order to determine how these changes are related to the ultimate freshness of fish filet.

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Geometric morphometrics: a method for Rainbow trout stocks identification in aquaculture

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Stock identification is an interdisciplinary field that involves the recognition of self-sustaining components within populations and is a central theme in fisheries science and management. Characters used to identify fish stocks can be divided into three groups: those that are purely genetic, those that are purely environmental, and those that may reflect both genetic and environmental variation. Body shape is a difficult, but important, trait to quantify. Morphometric analysis provides a powerful complement to genetic and environmental stock identification approaches. We collected totally 2193 digitized images from the left side of 27 different stocks of Rainbow trout (*O. mykiss*), reared in 13 Trentino fisheries. Using TPS software package, 24 homologous landmarks were placed on each fish shape and rigor mortis arching effect was digitally corrected, then the landmark coordinates were adjusted using a generalized procrustes analysis (GPA). Finally we could emphasize the ontogenetic shape differences between samples. Afterwards the TPS output data (a points matrix) were analysed by NTsys statistical software, especially by a canonical variates analysis (CVA). CVA was preferred rather than principal component analysis (PCA) for simplifying descriptions between group differences. This method yielded evidence of morphological differences among different stocks, and within the same stock reared in different environmental condition. TPS software helped us to show these differences by a graphic method, in which the main variation axis is represented by the transition from a "lean" to a "fat" fish shape. In contrast, geometric morphometric method could be sensitive to artifices due to a wrong images acquisition procedure or rough sample displacement under the camera. More tests are necessary to proof the intraspecific discriminant power.

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Evaluation of exposure risk of *Sparus aurata* to AFB1: comparison of effects induced *in vitro* on SaHePs primary cultures and *Vibrio fischeri*

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Among all toxins produced by fungi of the genus *Aspergillus*, aflatoxin B1 (AFB1) is considered the most hepatotoxic metabolite often found in animal feeds and is involved as cause of decline in fish performances and health status as well as mortality. Nevertheless, the evaluation of the risk to AFB1 exposure in *Sparus aurata*, one of the most reared species in the Mediterranean, is still poorly investigated. Accordingly, the aim of this study was to compare the effects induced *in vitro* by AFB1 on a novel experimental animal model based on hepatocytes in primary culture of *S. aurata* (SaHePs) and on *Vibrio fischeri*, using a validate test system: Microtox®. In both *in vitro* systems, AFB1 exposure concentrations ranged from 1.60 pM to 32 μM with exposure times of 24, 48 and 72h in SaHePs and 5, 15, 30 min and 3.5h in *V. fischeri*. Cytotoxicity was assessed by measuring the retention of neutral red (NR) in SaHePs, while the light emission of *V. fischeri* was considered for Microtox®. In both assays results indicated that prolonged exposure times would cause a significant increase of AFB1 toxicity; equivalent and overlapping EC50/IC50 values were found at shorter exposure times as well as NOEC values (16 nM) at lower exposure doses. At values corresponding to LOEC (32 nM) in SaHePs, hormesis response was detected by Microtox®. At sublethal and subcytotoxic concentrations SaHeps cultures succeeded in characterizing the type of damage whereas Microtox® reported the hormesis range. Hence, SaHePs cultures could be considered a useful, innovative and species specific *in vitro* tool to evaluate the exposure risk to feedborne potentially dangerous substances like aflatoxins in aquacultured species.