Health effects, nutrients and undesirables availability from consumption of mesopelagic species in C57BL/6J mouse

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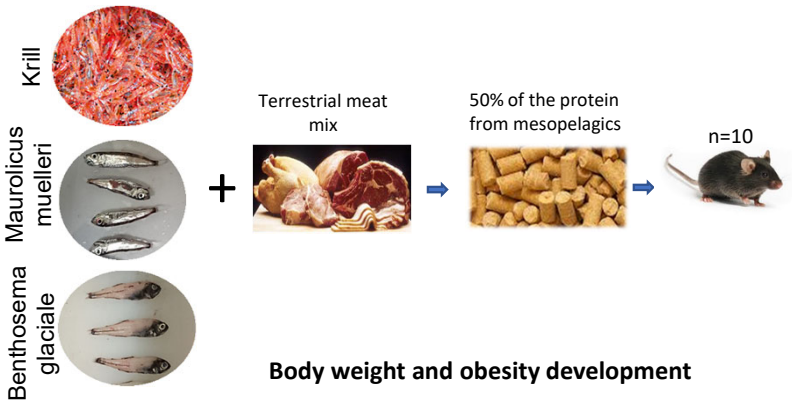
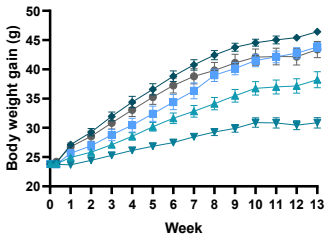
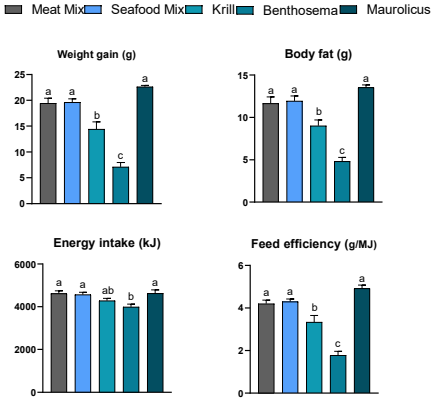
Mesopelagic species are suggested as an under-exploited food source, containing high levels of omega3 fatty acids, vitamins and minerals but also some undesirables.



Body weight and obesity development

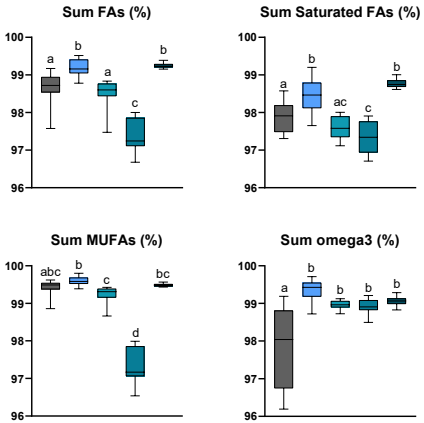
- Large differences in weight gain and body fat
- Benthosema-fed mice had lower energy intake and lower feed efficiency, indicating lower weight gain per unit of energy consumed.

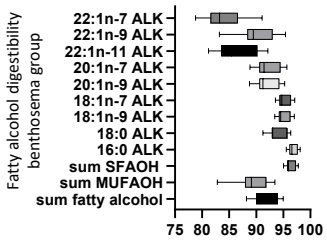




Fat digestibility

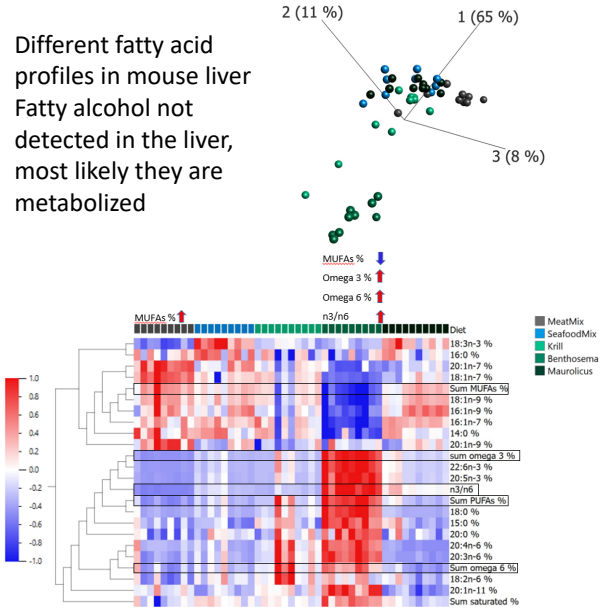
- Lower fat digestibility in benthosema
- >85% digestibility of fatty alcohol



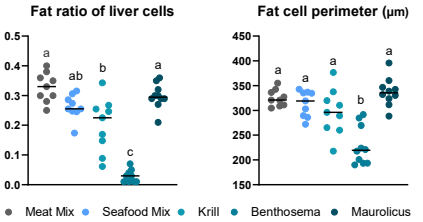


Fatty acid profile in mouse liver samples

- Different fatty acid profiles in mouse liver
- Fatty alcohol not detected in the liver, most likely they are metabolized



Histology



Conclusions

- Benthosema induced lowest weight gain and obesity development with a more healthy fatty acid profile in the liver.
- Maurolicus induced high weight gain and obesity similar to seafood mix and with similar fatty acid composition and krill was in-between.

Funding

Forskningsrådet
The Research Council of Norway