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## A medium-throughput method to phenotype fish for individual feed efficiency

Mathieu Besson, François Allal, Béatrice Chatain, Alain Vergnet, Frédéric Clota, Sebastien Ferrari, Marc Vandeputte

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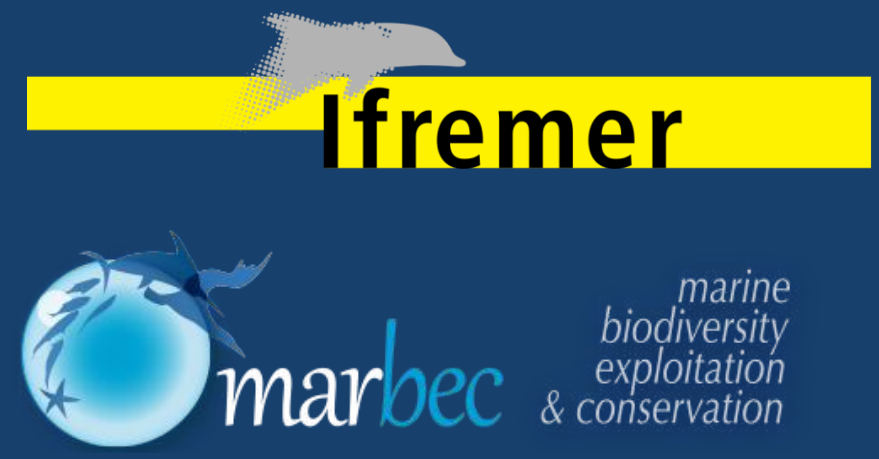
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# A MEDIUM-THROUGHPUT METHOD TO PHENOTYPE FISH FOR INDIVIDUAL FEED EFFICIENCY



M. Besson, F. Allal, B. Chatain, A. Vergnet, F. Clota, S. Ferrari & M. Vandeputte



## Background

Feed conversion ratio (FCR) = ability of fish to convert feed into biomass

$$\text{FCR} = \text{feed intake} / \text{weight gain}$$



Individual feed intake unknown



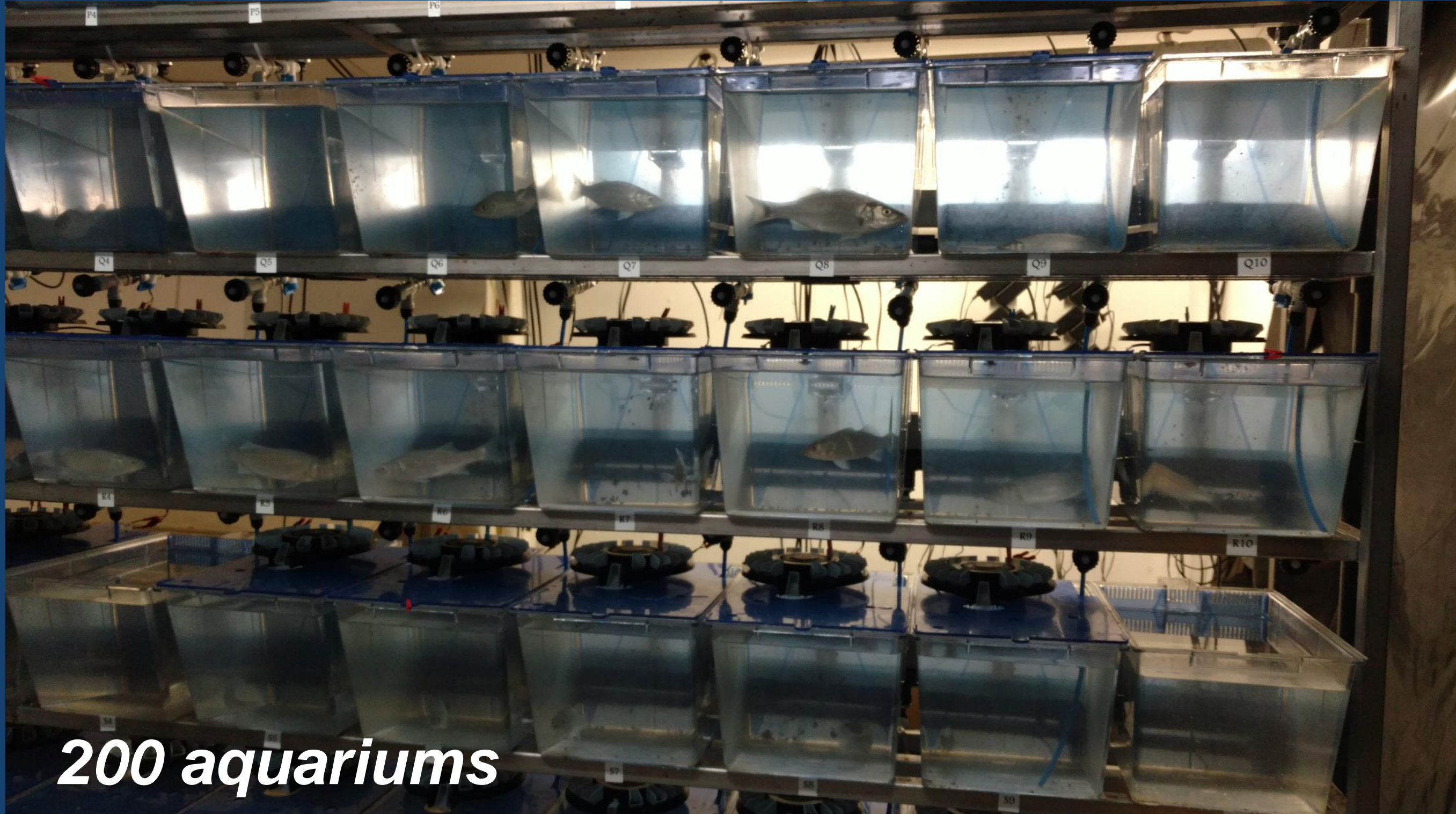
Easy to measure

→ Genetic parameters of FCR are unknown

## Our innovation

Phenotyping fish in individual aquariums

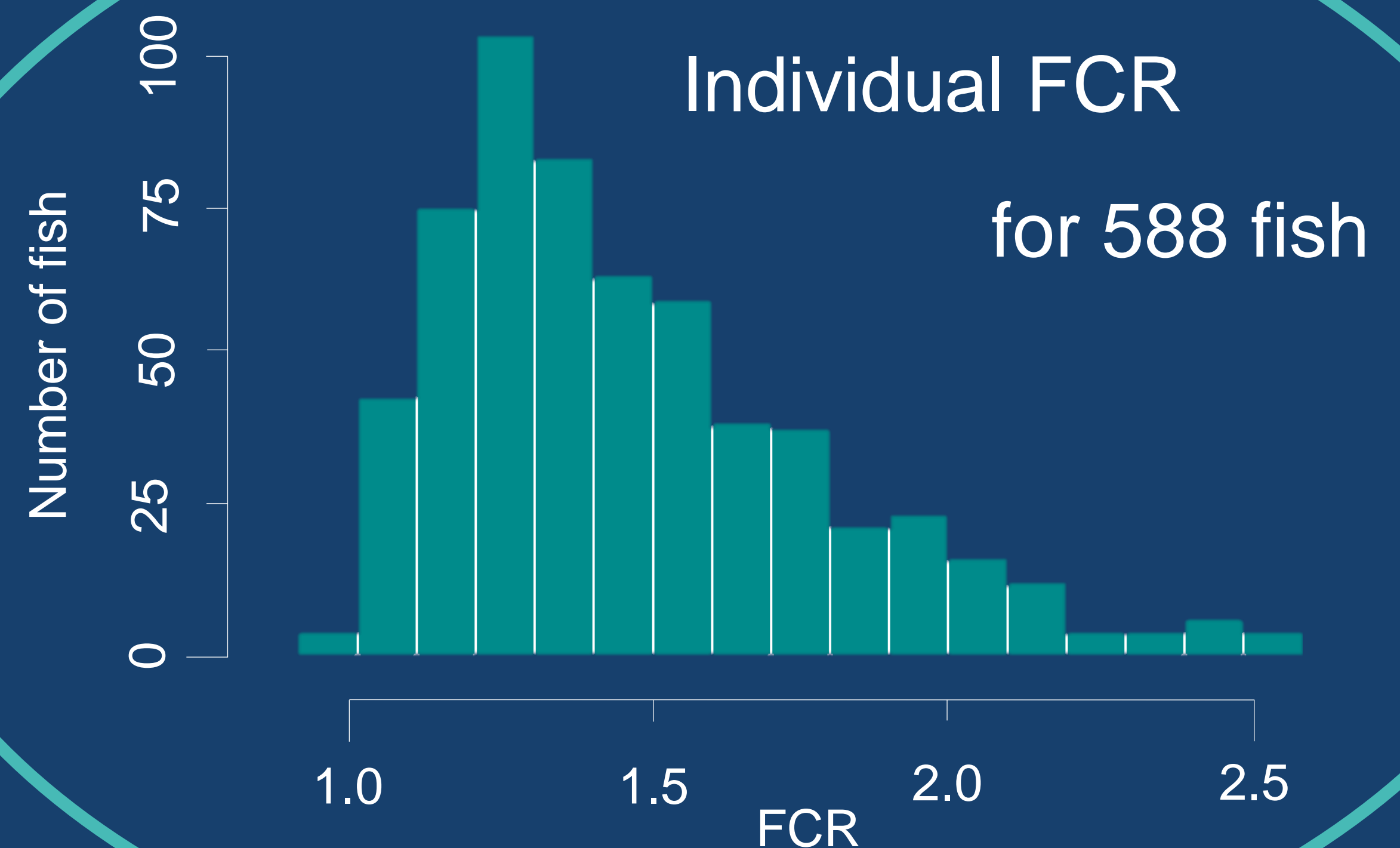
Fish kept in aquariums 6 weeks



200 aquariums

→ Weight gain  
Weight measured every 2 weeks

→ Feed intake  
Automatic delivery of restricted ration  
Uneaten pellets counted daily



## Extra results

Individual phenotype

+

Individual genotype  
(3000 SNPs)

=

$h^2 = 0.26$

Individual FCR can be improved through selective breeding



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