



# Estimating life history parameters of European hake using Bayesian models

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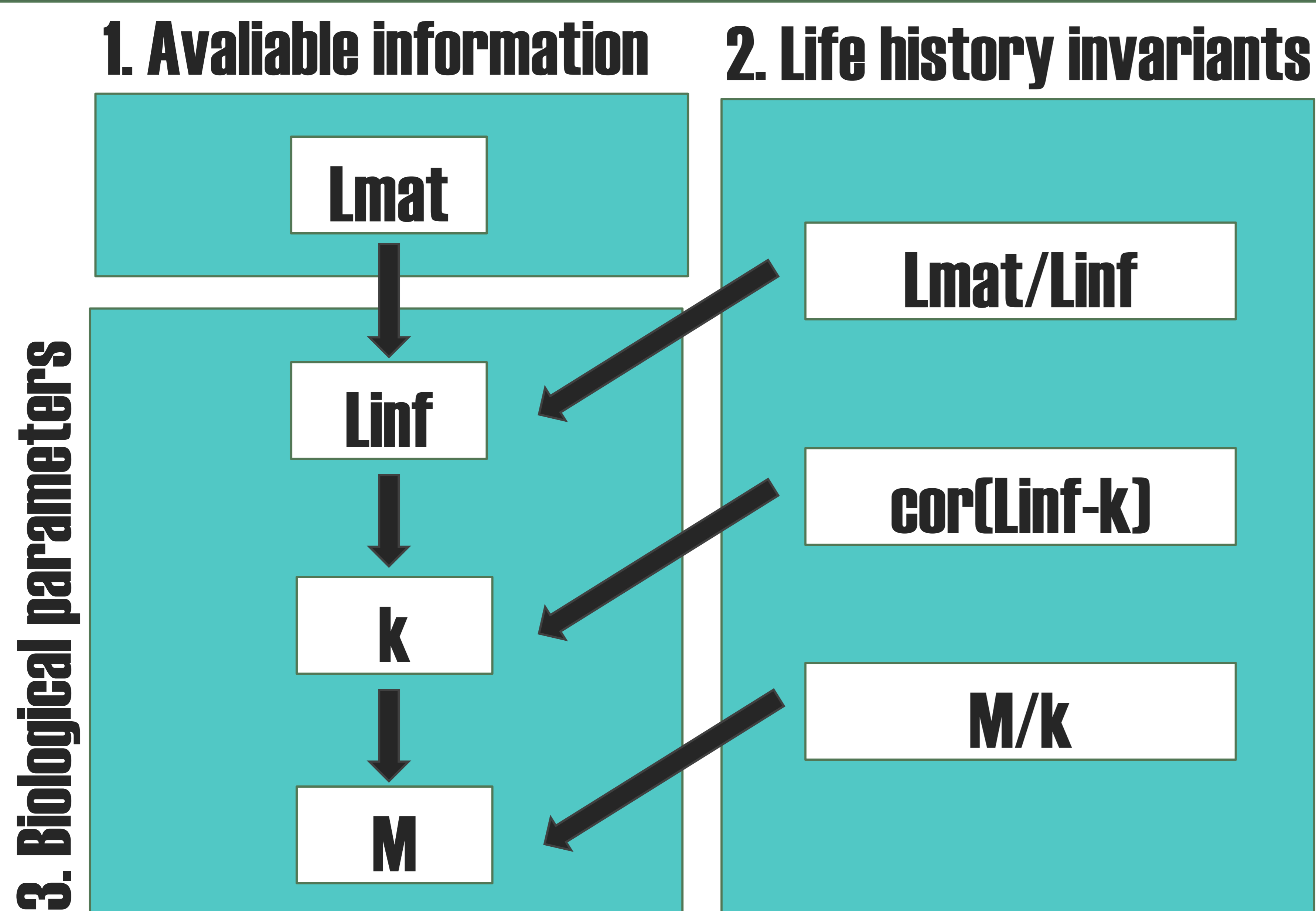
## Motivation

Biological parameters are one of the weakest areas in current stock assessment models.

## Objective

Estimate biological parameters of the Atlantic European hake (*Merluccius merluccius*) northern and southern stocks from Lmat and bibliographic data of all hake species.

## Methodology



LHI theory states that for a similar taxa, the relationship among some biological parameters are relatively constant (Charnov, 1993).

Meta analysis for all hakes biological parameters data by using [rfishbase](#) + [R2OpenBugs](#).

Bayesian hierarchical model by giving more weight to the European hake stock information.

## Results

Parameter	Nhake	Shake
$L_{inf}$ (Von Bert.)	mean=130.6 sd=21.91	mean=110.87 sd=18.93
K (Von Bert.)	median=0.14 cv=0.26	median=0.17 cv=0.27
M	median=0.30 cv=0.38	median=0.37 cv=0.39

## Next

- Make an [R package](#)
- Estimate parameters by sex
- Inputs for stock assessment

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Charnov, E. L. (1993). Life history invariants: some explorations of symmetry in evolutionary ecology (Vol. 6). Oxford University Press, USA.

