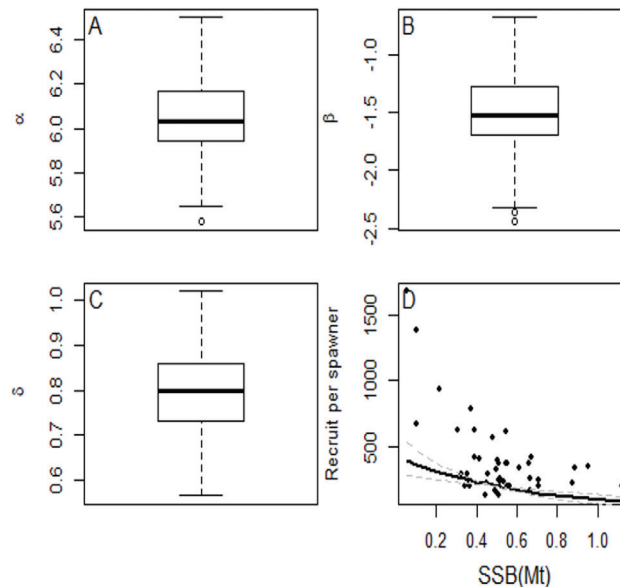# Fisheries Reference Points under Varying Stock Productivity and Discounting: European Anchovy as a Case Study

**Sezgin TUNCA, Marko LINDROOS and Martin LINDEGREN**

***Fig. S1:*** Boxplot of bootstrapped regression coefficients of the fitted S-R model (see Table 2), including the intercept (A), the slope of spawning stock biomass (*SSB*) (B) and the fixed effect factor of assessment (C), as well as the resulting predictions of recruits-per-spawner, as well as 95% confidence intervals (grey dashed) at each level of observed *SSB* when back-transformed from the log-values of the linearized Ricker model.
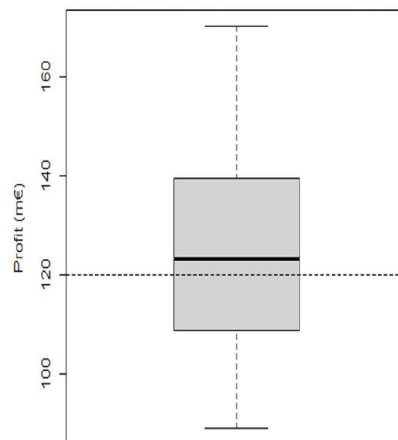


***Fig. S2:*** Boxplot of model derived estimates of profit (m€) versus an available estimate of the mean annual revenue of the Turkish anchovy fishery from 2006 to 2010 (Goulding *et al.,* 2014; dashed line). The model simulations represent mean annual profit based on 1,000 runs using the mean fishing mortality during the corresponding time-period and randomly resampled errors of the *S-R* model as input.
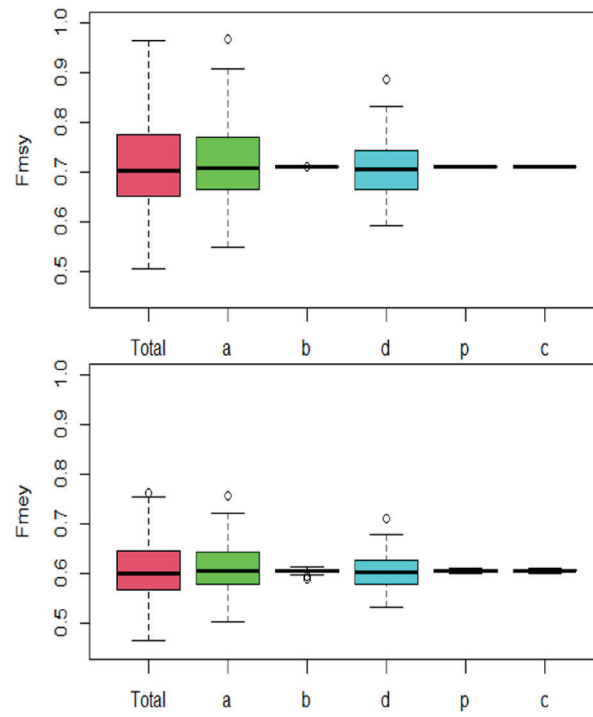
**Fig. S3:** Sensitivity of estimated reference points $F_{msy}$ (top) and $F_{mey}$ (bottom) to uncertainty in model input parameters, including each of the parameters individually and the combined global sensitivity ("Total"). The parameters a, b, d were randomly boot-strapped from the 95% CI of the fitted regression coefficients of the *S-R* model (Table 2; Fig. S1), while the economic parameters, price (*p*) and unit cost (*c*) were randomly drawn from a range representing ±25% of the fixed estimates (Table 1).

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*Medit. Mar. Sci., suppl.data, 23/4 2022, 1-2*