Definition of a new unbiased gonad index for aquatic invertebrates and fish: its application to the sea urchin *Paracentrotus lividus*

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Supplement 1. Graphic assessment of the adequacy of the final fitted models

Fig. S1. Linear regression between log test diameter and log gonad dry weight in the Ardeleiro fishing ground, according to the log-transformed Eq. (2) of the main text. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model



Fig. S2. Linear regression between log test diameter and log gonad dry weight in the Queiruga fishing ground, according to the log-transformed Eq. (2) of the main text. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model



Fig. S3. Linear mixed model between the standardized gonad index (SGI) and test diameter in the Ardeleiro fishing ground. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model



Autocorrelation of the Standardized residuals



Fig. S4. Linear mixed model between the linear gonad index (LGI) and test diameter in the Ardeleiro fishing ground. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model







Fig. S5. Linear mixed model between the standardized gonad index (SGI) and test diameter in the Queiruga fishing ground. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model



Autocorrelation of the Standardized residuals



Fig. S6. Linear mixed model between the linear gonad index (LGI) and test diameter in the Queiruga fishing ground. The dashed lines represent the expected mean trend of the residuals in the case of a suitable structure of the model

