Supplementary information

The adaptive value of camouflage and colour change in a polymorphic prawn

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Table S1. Summary results of seahorse visual modelling. Results of the two-way analyses of variance testing differences in "just-noticeable differences (JND), derived from two visual modelling scenarios (see Methods), according to combinations of *Hippolyte obliquimanus* colour morphs (brown or pink) and seaweed backgrounds (*Galaxaura marginata* and *Sargassum furcatum*) (upper table). The mean JND values and respective 95% confidence intervals (lower and upper bounds) for the different combinations between factors are shown in the lower table. Note that both models resulted in overlapping JND 95% confidence intervals for all factor combinations.

		Model 1			**Model 2**		
Source of variation	*df*	*MS*	*F*	*p*	*MS*	*F*	*p*
Prawn morph (M)	1	35.747	21.50	***	26.144	17.25	***
Seaweed habitat (S)	1	86.599	52.08	***	177.966	117.40	***
M x S	1	150.363	90.43	***	165.274	109.02	***
Residual	56	1.663			1.516		

	Model 1			**Model 2**		
		95% CI			95% CI	
Factor combinations	mean	lower bound	upper bound	mean	lower bound	upper bound
Brown *Galaxaura*	3.621	2.963	4.279	3.858	2.998	4.718
Brown *Sargassum*	2.857	1.806	3.908	3.983	3.262	4.704
Pink *Galaxaura*	1.998	1.623	2.373	1.859	1.477	2.241
Pink *Sargassum*	7.567	6.964	8.170	8.623	7.947	9.299

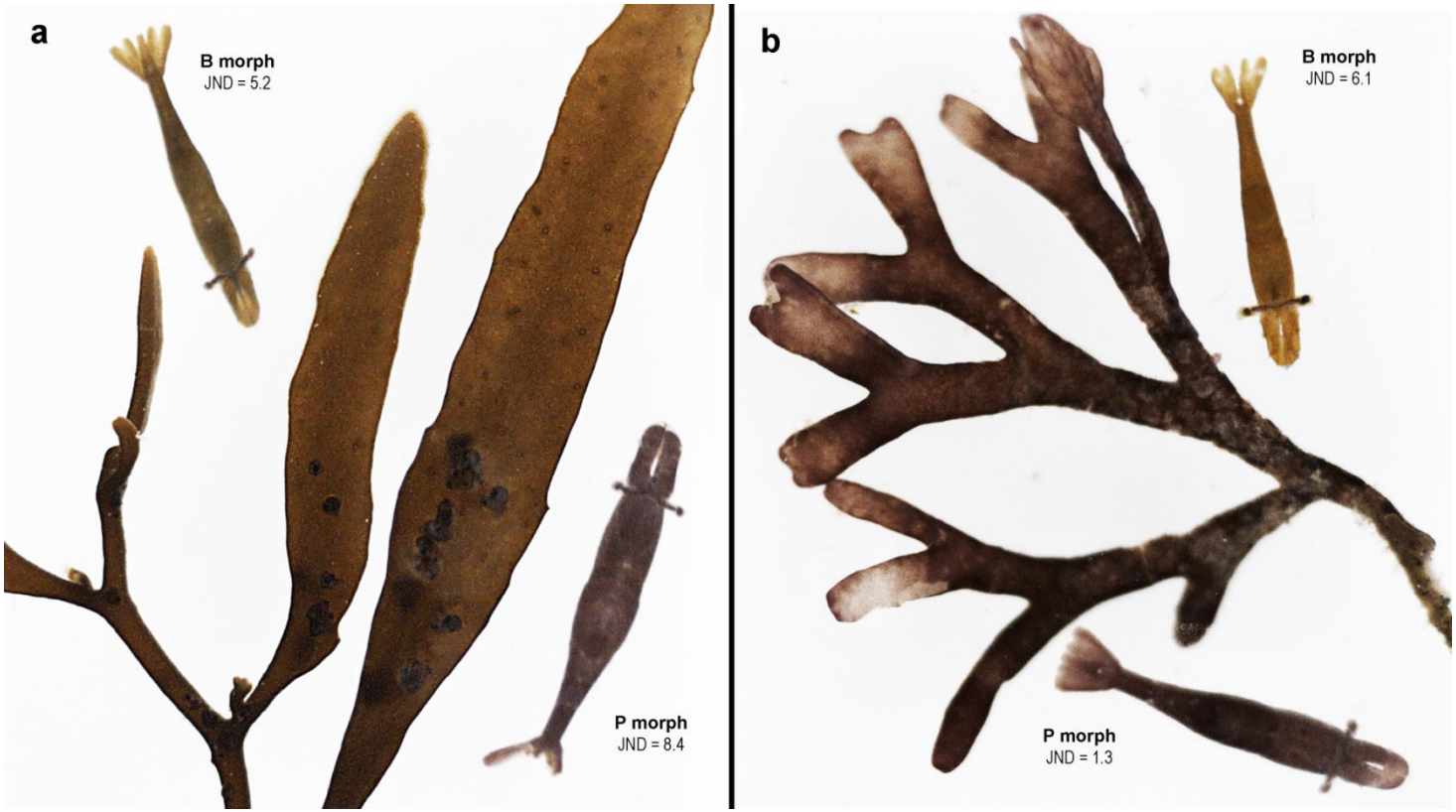

Figure S1 – Differential camouflage of *Hippolyte obliquimanus* colour morphs on the seaweeds *Sargassum furcatum* and *Galaxaura marginata* to the vision of the seahorse *Hippocampus subelongatus*. False-colour seahorse images of brown (B) and pink (P) prawns on *Sargassum* (**a**) and *Galaxaura* (**b**) seaweeds are made from a combination of the blue, green and red channels (corresponding to the mapped shortwave, mediumwave and longwave images of seahorse receptors, respectively). Here, resulting images were square-root-transformed from linear cone-catch photos only for display purposes only. Average JND values resulting from comparing each prawn to the respective seaweed using the Vorobyev-Osorio model are also shown (see main text).