

Supplementary material

Table S1. Ranking of all models of relative vertical position for each study species. Models are ordered from lowest to highest value of $\Delta AICc$, which represents the difference in AIC relative to the best model. The simplest model, with lowest degrees of freedom (df) among those with $\Delta AICc \leq 2$, is shown in bold and was used for the figures. Letters represent model parameters: p= relative vertical position, d= depth, s= season, w= water.

Species	Rank	Models	Family	df	$\Delta AICc$
<i>G. tombacea</i>	1	$p \sim d + s$	Gaussian	4	0.0
	2	$p \sim d$	Gaussian	3	1.9
	3	$p \sim s$	Gaussian	3	18.1
	4	$p \sim 1$ (null)	Gaussian	2	18.9
	5	$p \sim d * s$	Gaussian	5	NA
<i>H. minor</i>	1	$p \sim d + s + w$	Gaussian	5	0.0
	2	$p \sim d * w + s$	Gaussian	6	0.9
	3	$p \sim d + s$	Gaussian	5	1.8
	4	$p \sim d * w$	Gaussian	5	2.7
	5	$p \sim d + s$	Gaussian	4	3.3
	6	$p \sim d$	Gaussian	3	8.6
	7	$p \sim s + w$	Gaussian	4	14.8
	8	$p \sim s * w$	Gaussian	5	15.7
	9	$p \sim w$	Gaussian	3	17.1
	10	$p \sim s$	Gaussian	3	26.2
	11	$p \sim 1$ (null)	Gaussian	2	27.5
	12	$p \sim d * s$	Gaussian	5	NA
	13	$p \sim d * s + w$	Gaussian	6	NA
<i>M. assimilis</i>	1	$p \sim d + s + w$	Gaussian	5	0.0
	2	$p \sim d + s$	Gaussian	4	0.1
	3	$p \sim d + w$	Gaussian	4	0.8
	4	$p \sim d * w + s$	Gaussian	6	1.7
	5	$p \sim d$	Gaussian	3	2.2
	6	$p \sim d * s$	Gaussian	5	2.3
	7	$p \sim d * w$	Gaussian	5	2.6
	8	$p \sim s + w$	Gaussian	4	15.5
	9	$p \sim s * w$	Gaussian	5	16.9
	10	$p \sim s$	Gaussian	3	17.4
	11	$p \sim w$	Gaussian	3	18.9
	12	$p \sim 1$ (null)	Gaussian	2	19.6
	13	$p \sim d * s + w$	Gaussian	6	NA
<i>H. melanopogon</i>	1	$p \sim d + s$	Gaussian	4	0.0
	2	$p \sim d + s + w$	Gaussian	5	1.9
	3	$p \sim d * w + s$	Gaussian	6	3.6
	4	$p \sim d$	Gaussian	3	13.0
	5	$p \sim d + w$	Gaussian	4	13.9
	6	$p \sim d * w$	Gaussian	5	15.9
	7	$p \sim s + w$	Gaussian	4	188.8
	8	$p \sim s$	Gaussian	3	189.3
	9	$p \sim s * w$	Gaussian	5	190.3
	10	$p \sim 1$ (null)	Gaussian	2	242.3
	11	$p \sim w$	Gaussian	3	244.1
	12	$p \sim d * w$	Gaussian	5	NA

<i>M. leucophrys</i>	13	$p \sim d * s$	Gaussian	5	NA
	1	$p \sim s * w$	Tweedie	5	0.0
	2	$p \sim d + w + s$	Tweedie	5	3.8
	3	$p \sim d + w$	Tweedie	4	4.2
	4	$p \sim d * w + s$	Tweedie	6	6.1
	5	$p \sim s + w$	Tweedie	4	16.3
	6	$p \sim w$	Tweedie	3	24.9
	7	$p \sim d + s$	Tweedie	4	25.6
	8	$p \sim d$	Tweedie	3	27.0
	9	$p \sim s$	Tweedie	3	50.4
	10	$p \sim 1$ (nulo)	Tweedie	2	68.4
	11	$p \sim d * w$	Tweedie	5	NA
	12	$p \sim d * s$	Tweedie	5	NA
	13	$p \sim d * s + w$	Tweedie	6	NA

Table S2. Ranking of all models of height above substrate for each study species. Models are ordered from lowest to highest value of $\Delta AICc$, which represents the difference in AIC relative to the best model. The simplest model, with lowest degrees of freedom (df) among those with $\Delta AICc \leq 2$, is shown in bold and was used for the figures. Letters represent model parameters: hs= height above substrate, d= depth, s= season, w= water.

Species	Rank	Models	Family	df	$\Delta AICc$
<i>G. tombacea</i>	1	hs ~ s	Gamma	3	0.0
	2	hs ~ d + s	Gamma	4	1.0
	3	hs ~ d	Gamma	3	5.8
	4	hs ~ 1 (null)	Gamma	2	30.3
	5	hs ~ d * s	Gamma	5	NA
<i>H. minor</i>	1	hs ~ d	Gamma	3	0.0
	2	hs ~ d + s	Gamma	4	0.4
	3	hs ~ d + w	Gamma	4	2.0
	4	hs ~ d + w + s	Gamma	5	2.6
	5	hs ~ d * w	Gamma	5	3.7
	6	hs ~ d * w + s	Gamma	6	4.5
	7	hs ~ s + w	Gamma	4	15.0
	8	hs ~ s * w	Gamma	5	16.2
	9	hs ~ w	Gamma	3	16.3
	10	hs ~ s	Gamma	3	79.8
	11	hs ~ 1 (null)	Gamma	2	81.7
	12	hs ~ d * s	Gamma	5	NA
	13	hs ~ d * s + w	Gamma	6	NA
<i>M. assimilis</i>	1	hs ~ d	Gamma	3	0.0
	2	hs ~ d + w	Gamma	5	1.9
	3	hs ~ d + s	Gamma	5	2.1
	4	hs ~ s	Gamma	3	3.2
	5	hs ~ d * w	Gamma	5	3.8
	6	hs ~ d + s + w	Gamma	5	4.1
	7	hs ~ d * s	Gamma	5	4.3
	8	hs ~ s + w	Gamma	4	5.0
	9	hs ~ d * w + s	Gamma	6	6.0
	10	hs ~ d * s + w	Gamma	6	6.3
	11	hs ~ s * w	Gamma	5	6.9

<i>H. melanopogon</i>	12	hs ~ 1 (null)	Gamma	2	7.5
	13	hs ~ w	Gamma	3	9.5
	1	hs ~ d + s	Tweedie	4	0.0
	2	hs ~ s	Tweedie	3	0.8
	3	hs ~ d + s	Tweedie	4	2.1
	4	hs ~ d * s	Tweedie	5	2.1
	5	hs ~ s + w	Tweedie	4	2.9
	6	hs ~ d * w + s	Tweedie	6	4.0
	7	hs ~ d * s + w	Tweedie	6	4.2
	8	hs ~ s * w	Tweedie	4	4.6
	9	hs ~ d	Tweedie	3	32.1
	10	hs ~ d + w	Tweedie	4	33.3
	11	hs ~ d * w	Tweedie	5	35.3
<i>M. leucophrys</i>	12	hs ~ 1 (null)	Tweedie	2	108.5
	13	hs ~ w	Tweedie	3	109.2
	1	hs ~ w	Tweedie	3	0.0
	2	hs ~ w * s	Tweedie	5	1.3
	3	hs ~ s + w	Tweedie	4	1.5
	4	hs ~ d + w	Tweedie	4	2.2
	5	hs ~ d + s + w	Tweedie	5	3.3
	6	hs ~ 1 (null)	Tweedie	2	4.7
	7	hs ~ s	Tweedie	3	4.7
	8	hs ~ d	Tweedie	3	5.4
	9	hs ~ d * w	Tweedie	5	5.7
	10	hs ~ d + s	Tweedie	4	6.7
	11	hs ~ d * w	Tweedie	5	NA
	12	hs ~ d * s	Tweedie	4	NA
	13	hs ~ d * s + w	Tweedie	6	NA
