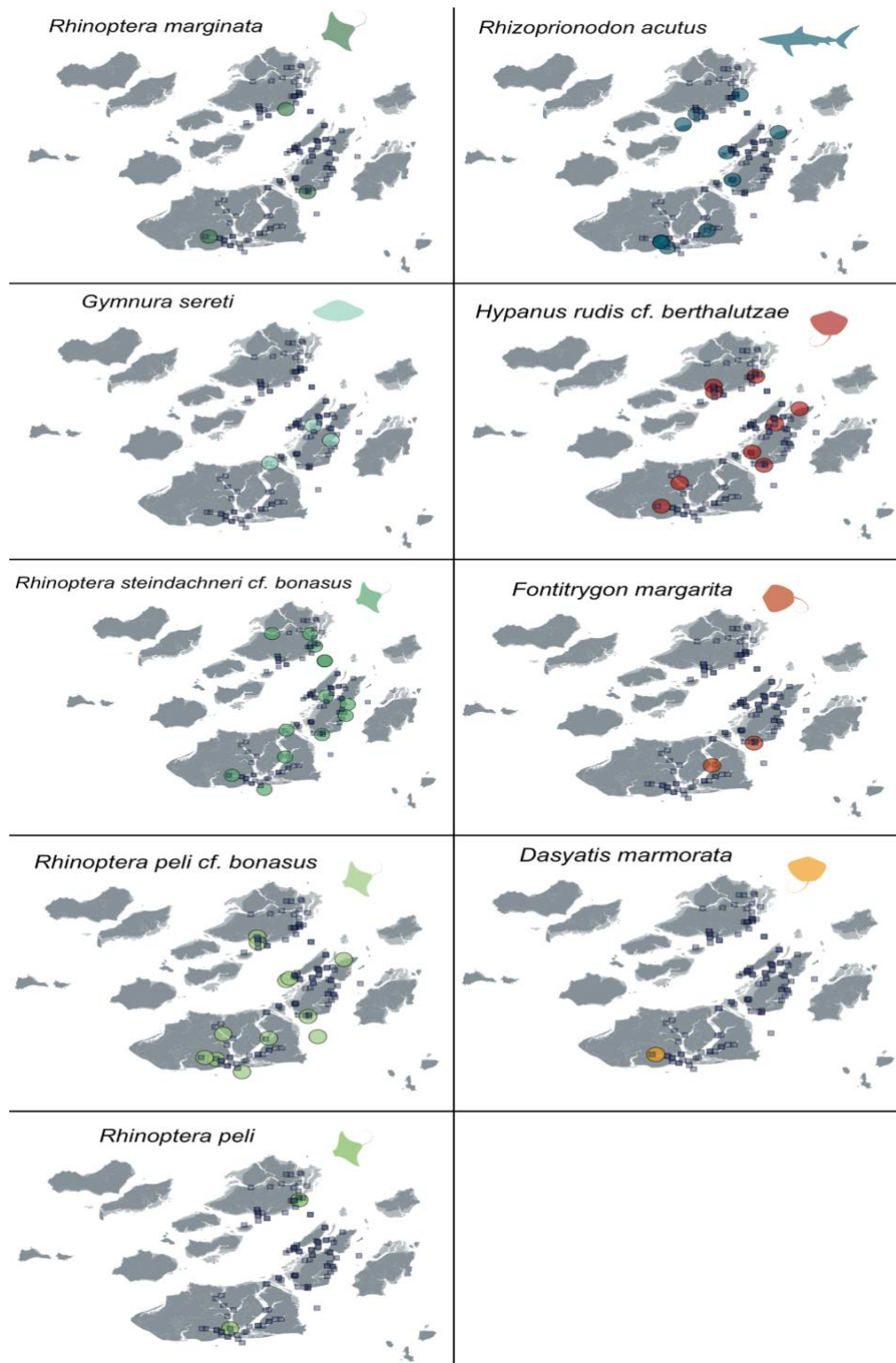


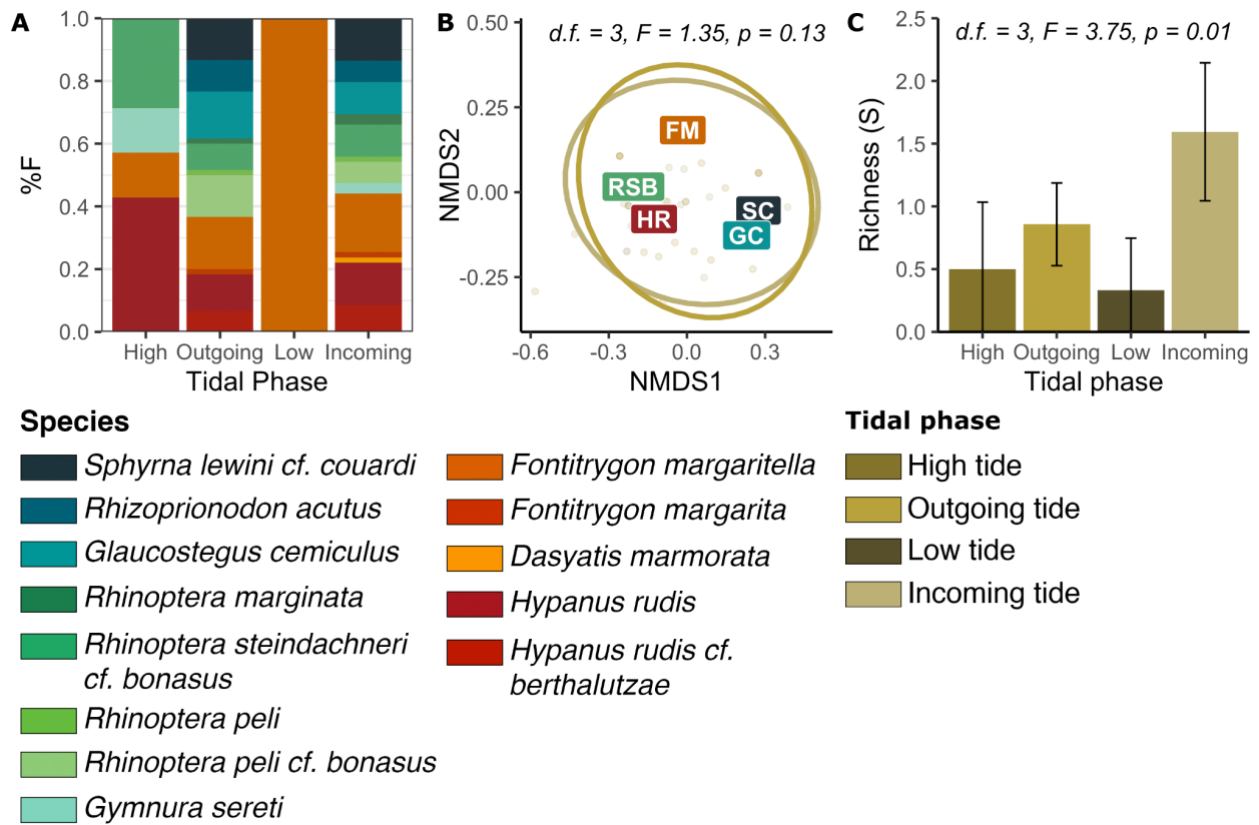
## Appendix 5.1



Supplementary to Figure 5.3, with the locations where the relatively rare species were detected.

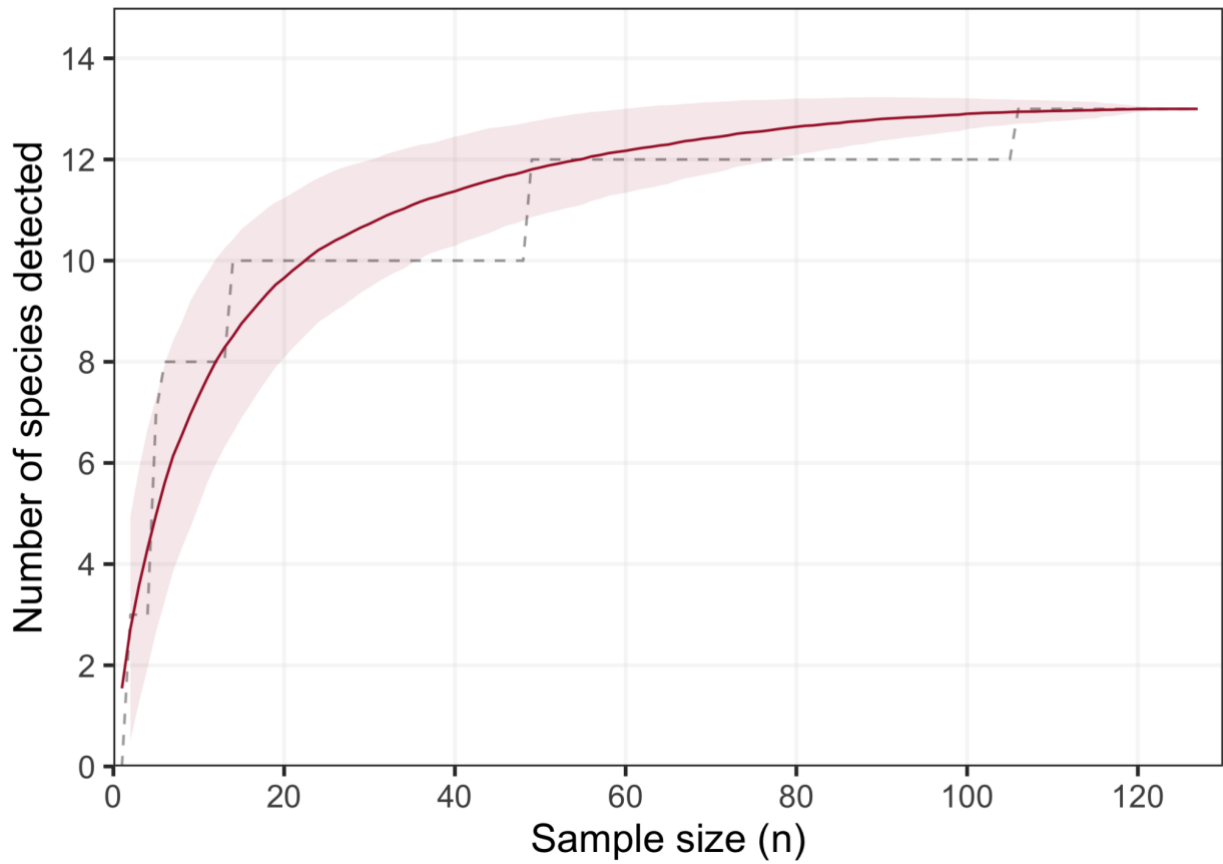
Sampling points where the species was absent are indicated by small blue squares.

## Appendix 5.2



The influence of tidal phase on the frequency of occurrence of a species (%F; A), species composition (NMDS; B), and the species richness (S; C). Species are indicated by their different colors, with the five most common species indicated in the NMDS (FM = *Fontitrygon margaritella*, RSB = *Rhinoptera steindachneri cf. bonasus*, HR = *Hypanus rudis*, SC = *Sphyrna lewini cf. couardi*, GC = *Glaucostegus cemiculus*).

### Appendix 5.3



Species accumulation curve with the number of species detected as a function of total sampling effort. The observed species richness is indicated by the dashed black line. The estimated species richness is indicated in red, with the shaded area indicating the standard deviation after 1000 permutations.

**Appendix 5.4** Model comparison of the species richness model. Model selection was done based on Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC).

<b>Coefficients</b>	<b>AIC</b>	<b>Δ AIC</b>	<b>BIC</b>	<b>Δ BIC</b>
Season x (MPA + GebaDist.) + MangroveDist. + TidalPhase	355.9	14.7	387.2	20.6
Season x MPA + GebaDist. + MangroveDist. + TidalPhase	354.5	13.3	382.9	15.6
Season x MPA + MangroveDist. + TidalPhase	353.1	11.9	378.7	12.1
Season + MPA + MangroveDist. + TidalPhase	352.3	11.1	375.1	8.5
<b>Season + MangroveDist. + TidalPhase</b>	<b>341.2</b>	<b>0.0</b>	<b>366.6</b>	<b>0.0</b>
Season + TidalPhase	350.9	9.7	368.0	1.4

**Appendix 5.5** Overview of the variables included in the best-fit species richness model (**Appendix 5.4**).

<b>Independent variable</b>	<b>SS</b>	<b>D.f.</b>	<b>F</b>	<b>p</b>
Season	4.48	1	<b>4.46</b>	<b>0.04</b>
Distance from mangrove	2.55	1	2.54	0.11
Tidal phase	11.29	3	3.75	<b>0.01</b>
<i>Residuals</i>	<i>121.39</i>	<i>121</i>		

**Appendix 5.6** Model comparison of the species-specific models.. Model selection was conducted based on Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC).

Species	Variables	AIC	BIC
<i>Fontitrygon margaritella</i>	Season x (MPA + GebaDist.) + MangroveDist. + TidalPhase	125.39	148.14
	Season x GebaDist. + MPA + MangroveDist. + TidalPhase	123.43	143.34
	Season + GebaDist. + MPA + MangroveDist. + TidalPhase	121.55	138.61
	Season + MPA + MangroveDist. + TidalPhase	119.92	134.14
	Season + MangroveDist. + TidalPhase	119.33	130.70
	<b>MangroveDist. + TidalPhase</b>	<b>119.86</b>	<b>128.39</b>
<i>Hypanus rudis</i>	Season x GebaDist. + MPA + MangroveDist. + TidalPhase	111.10	131.01
	Season + GebaDist. + MPA + MangroveDist. + TidalPhase	109.10	126.17
	Season + MPA + MangroveDist. + TidalPhase	107.11	121.33
	Season + MangroveDist. + TidalPhase	105.42	116.80
	MangroveDist. + TidalPhase	103.88	112.41
	<b>MangroveDist.</b>	<b>104.39</b>	<b>110.07</b>
<i>Glaucostegus cemiculus</i>	Season x (MPA + GebaDist.) + MangroveDist. + TidalPhase	90.28	113.03
	Season x (MPA + GebaDist.) + MangroveDist.	88.28	108.19
	Season x GebaDist. + MPA + MangroveDist.	86.73	103.79
	<b>Season x GebaDist. + MangroveDist.</b>	<b>84.74</b>	<b>98.96</b>
	Season + GebaDist. + MangroveDist.	86.31	97.69
	Season + MangroveDist.	86.47	95.00
	Season	86.82	92.51
<i>Sphyrna lewini cf. couardi</i>	Season x (MPA + GebaDist.) + MangroveDist. + TidalPhase	97.15	119.91
	Season x GebaDist. + MPA + MangroveDist. + TidalPhase	95.65	115.56
	Season x GebaDist. + MangroveDist. + TidalPhase	93.76	110.83
	Season x GebaDist. + TidalPhase	92.42	106.65
	Season x GebaDist.	91.77	103.14
	Season + GebaDist.	91.71	100.25
	<b>Season</b>	<b>89.74</b>	<b>95.43</b>

<i>Rhinoptera steindachneri</i> <i>cf. bonasus</i>	Season x (MPA + GebaDist.) + MangroveDist. + TidalPhase	88.46	111.22
	Season x MPA + GebaDist. + MangroveDist. + TidalPhase	86.72	106.63
	Season x MPA + MangroveDist. + TidalPhase	84.86	101.92
	Season + MPA + MangroveDist. + TidalPhase	83.79	98.01
	Season + MangroveDist. + TidalPhase	81.92	93.30
	<b>Season + MangroveDist.</b>	<b>81.09</b>	<b>89.62</b>
	MangroveDist.	82.34	88.03
<i>Rhinoptera peli</i>	GebaDist. + MangroveDist. + TidalPhase	28.22	39.60
	GebaDist. + MangroveDist.	26.33	34.87
	<b>MangroveDist.</b>	<b>24.37</b>	<b>30.05</b>
<i>Rhizoprionodon acutus</i>	MPA + GebaDist. + MangroveDist. + TidalPhase	78.78	93.00
	GebaDist. + MangroveDist. + TidalPhase	76.79	88.16
	GebaDist. + MangroveDist.	74.81	83.34
	<b>GebaDist.</b>	<b>72.90</b>	<b>78.59</b>
<i>Hypanys rudis</i> <i>cf.</i> <i>berthalutzae</i>	MPA + GebaDist. + MangroveDist. + TidalPhase	73.55	87.78
	MPA + MangroveDist. + TidalPhase	71.57	82.94
	MangroveDist. + TidalPhase	69.59	78.13
	<b>TidalPhase</b>	<b>67.85</b>	<b>73.54</b>

**Appendix 5.7** Analyses of variance for selected species-specific models (**Appendix 5.6**).

Species	Coefficient	d.f.	X <sup>2</sup>	p-value	
<i>Fontitrygon margaritella</i>	<b>MangroveDist</b>	<b>1</b>	<b>4.51</b>	<b>0.03</b>	*
	<b>TidalPhase</b>	<b>1</b>	<b>4.86</b>	<b>0.03</b>	*
<i>Hypanus rudis</i>	MangroveDist	1	3.27	0.07	.
<i>Glaucostegus cemiculus</i>	<b>Season</b>	<b>1</b>	<b>11.1</b>	<b>0.00</b>	***
	GebaDist.	1	2.16	0.14	
	<b>MangroveDist.</b>	<b>1</b>	<b>4.01</b>	<b>0.045</b>	*
	Season x GebaDist.	1	3.57	0.06	
<i>Sphyrna lewini cf. couardi</i>	<b>Season</b>	<b>1</b>	<b>10.44</b>	<b>0.00</b>	**
<i>Rhinoptera steindachneri cf. bonasus</i>	Season	1	3.25	0.07	.
	<b>MangroveDist.</b>	<b>1</b>	<b>5.89</b>	<b>0.02</b>	*
<i>Rhinoptera peli</i>	MangroveDist.	1	0.21	0.65	
<i>Rhizoprionodon acutus</i>	GebaDist.	1	1.11	0.29	
<i>Hypanus rudis cf. berthaltutzae</i>	TidalPhase	1	1.1	0.29	