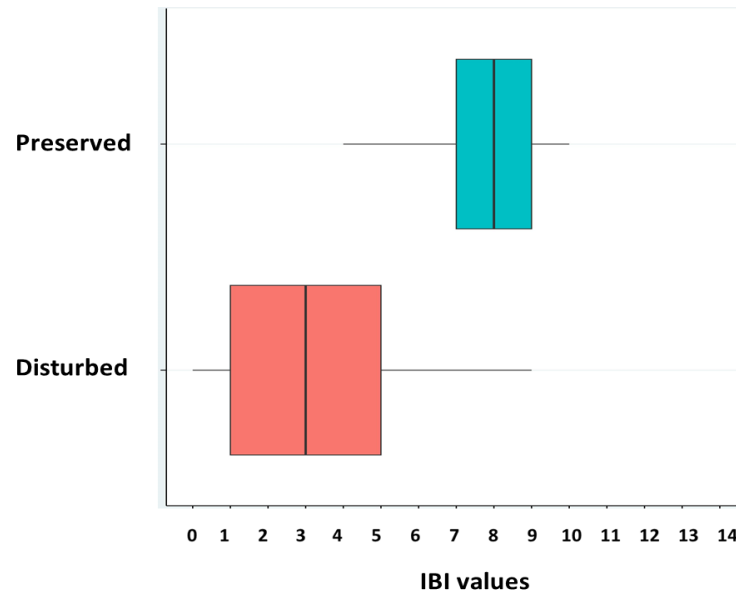
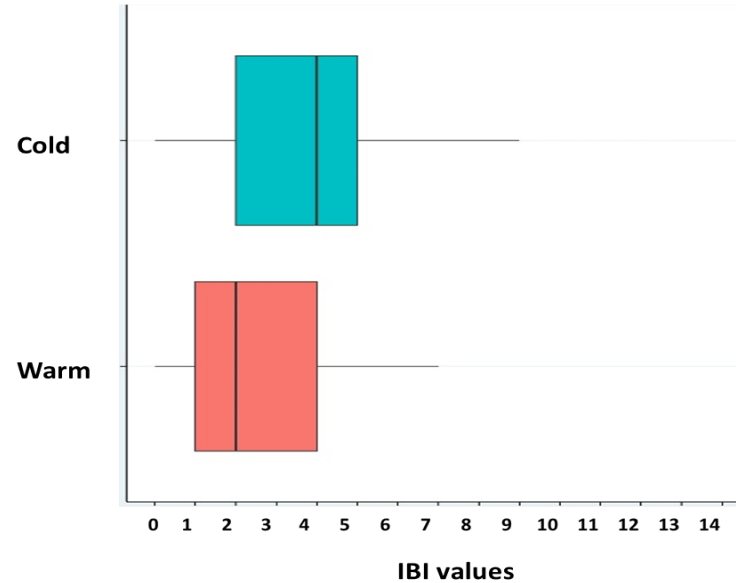


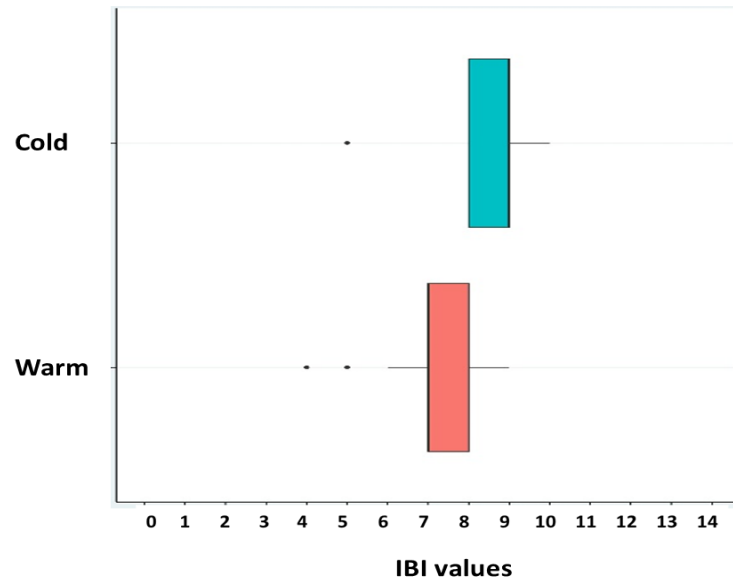
## SUPPLEMENTARY FILE



**Figure S1.** Boxplots of total IBI values all preserved sites and disturbed sites. IBI values are significantly higher in preserved sites with low variance compared to disturbed sites. Letters indicate significant difference according to Wilcoxon test ( $U=3279.5$ ,  $P<0.0001$ ).



**Figure S2.** Boxplots of total IBI values of the six sites representing disturbed native forest per semester Cold semester - Winter/Spring ( $n=37$ ), Warm semester- Summer/Autumn ( $n=44$ ), Same letter indicates non-significant differences according to Wilcoxon test ( $U=980$ ,  $P=1$ ).



**Figure S3.** Boxplots of total IBI values of the six sites representing preserved native forest per semester Cold semester - Winter/Spring (n= 40), Warm semester - Summer/Autumn (n= 47), Same letter indicates non-significant differences according to Wilcoxon test (U=1591,  $P<0.0001$ ).

**Table S1.** Number of seasons data available in disturbed and preserved reference sites.

Islands	Site quality	Winter	Spring	Summer	Autumn
Flores	Disturbed	5	6	7	5
Flores	Disturbed	1	2	3	2
Pico	Disturbed	8	8	8	8
Pico	Disturbed	1	2	3	3
Terceira	Disturbed	8	9	9	8
Terceira	Disturbed	6	8	11	9
Flores	Preserved	1	2	3	2
Pico	Preserved	1	2	3	3
Terceira	Preserved	9	9	11	11
Terceira	Preserved	6	6	8	8
Terceira	Preserved	9	9	11	11
Terceira	Preserved	5	6	8	7

**Table S2.** Number of semesters data available in disturbed and preserved reference sites. Seasons winter and spring are merged into Cold semester. Seasons summer and autumn are merged into warm semester.

Islands	Site quality	Cold (Winter/Spring)	Warm (Summer/Autumn)
Flores	Disturbed	6	8
Flores	Disturbed	2	3
Pico	Disturbed	8	9
Pico	Disturbed	2	3
Terceira	Disturbed	9	10
Terceira	Disturbed	10	11
Flores	Preserved	2	3
Pico	Preserved	2	3
Terceira	Preserved	10	11
Terceira	Preserved	9	10
Terceira	Preserved	10	11
Terceira	Preserved	7	9

**Table S3.** Mean and range values of biointegrity index in disturbed and preserved reference sites for the four seasons. *H* and *P* are respectively the statistic and Probability values of the Kruskal-Wallis test comparing the four seasons. – Indicates situations where data are insufficient to run a Kruskal-Wallis test.

Islands	Site quality	Winter		Spring		Summer		Autumn		H	P
		Mean±SD	Range	Mean±SD	Range	Mean±SD	Range	Mean±SD	Range		
Flores	Disturbed	3.0 ± 1.58	[1 - 5]	5.7 ± 0.52	[5 - 6]	3.9 ± 0.69	[3 - 5]	4.0 ± 1.58	[2 - 6]	5.18	0.394
Flores	Disturbed	--	--	5 ± 0	[5 - 5]	3.3 ± 1.16	[2 - 4]	4.0 ± 1.41	[3 - 5]	--	--
Pico	Disturbed	0.9 ±1.46	[0 - 4]	2.13 ± 1.96	[0 - 5]	1.0 ± 0.93	[0 - 2]	1.1 ± 1.73	[0 - 5]	2.61	0.760
Pico	Disturbed	--	--	9.0 ± 0.00	[9 - 9]	7.7 ± 0.58	[7 - 8]	7.7 ± 0.58	[7 - 8]	--	--
Terceira	Disturbed	3.3 ± 2.66	[0 - 8]	2.3 ± 1.23	[0 - 4]	2.1 ± 1.27	[1 - 4]	1.25 ± 0.71	[0 - 2]	5.83	0.442
Terceira	Disturbed	5.7 ± 1.37	[3 - 7]	6.3 ± 1.49	[4 - 8]	4.4 ± 1.50	[2 - 7]	4.1 ± 2.37	[0 - 7]	6.80	0.558
Flores	Preserved	--	--	8.5 ± 0.71	[8 - 9]	7.0 ± 0.00	[7 - 7]	6.5 ± 2.12	[5 - 8]	--	--
Pico	Preserved	--	--	7.0 ± 2.83	[5 - 9]	8.3 ± 0.58	[8 - 9]	8.7 ± 0.58	[8 - 9]	--	--
Terceira	Preserved	8.1 ± 0.60	[7 - 9]	8.3 ± 0.71	[7 - 9]	7.1 ± 1.04	[5 - 8]	6.6 ± 0.92	[5 - 8]	6.71	0.152
Terceira	Preserved	9.0 ± 1.10	[7 - 10]	9.5 ± 0.55	[9 - 10]	8.6 ± 0.52	[8 - 9]	7.5 ± 1.31	[5 - 9]	4.45	0.349
Terceira	Preserved	8.4 ± 0.53	[8 - 9]	8.4 ± 0.53	[8 - 9]	6.6 ± 0.81	[5 - 8]	7.3 ± 0.79	[6 - 8]	2.93	0.569
Terceira	Preserved	8.2 ± 0.45	[8 - 9]	8.3 ± 1.03	[7 - 10]	7.5 ± 0.93	[6 - 9]	6.29 ± 1.11	[5 - 8]	8.06	0.153
All Disturbed sites		3.2 ± 2.6	[0 - 8]	4.3 ± 2.5	[0 - 9]	3.3 ± 2.1	[0 - 8]	3.1 ± 2.5	[0 - 8]	5.48	0.14
All Preserved sites		8.4 ± 0.8	[7 - 10]	8.5 ± 1.0	[5 - 10]	7.4 ± 1.0	[5 - 9]	7.0 ± 1.2	[5 - 9]	42.97	P<0.001
Total		5.9 ± 3.2	[0 - 10]	6.4 ± 2.8	[0 - 10]	5.4 ± 2.6	[0 - 9]	5.2 ± 2.7	[0 - 9]	11.2	0.011