

## Supplementary material:

Scott-Frías J, Cervigón F, Zoppi de Roa E, Suárez-Morales E: Pelagic copepod diversity (Crustacea, Copepoda) in the Southern Caribbean: evidence of a pending assignment. *Revista Mexicana de Biodiversidad* 94 (2023): e944177 2 <https://doi.org/10.22201/ib.20078706e.2023.94.4177>

**Files available in:** <http://dx.doi.org/10.17632/dxh7yzpbxp.1>

**File 1\_southern\_caribbean\_copepoda (Format TXT):** pelagic copepod species incidence in the Southern Caribbean (dataset). Sample-based incidence. One set of replicated sampling units (classic EstimateS input). Format 1: Species (rows) by Samples (columns) to EstimateS v.9.1.0.

**File 2\_output\_estimates (Format CSV):** Rarefaction and species richness estimates in EstimateS v.9.1.0, only the estimators used in this work are included (S, Unique, Duplicates, Bootstrap and Jaccknife 2).

**File 3\_sample\_key (Format CSV):** supplementary information on samples, number, reference to Table 1, authors and year, original station code, longitude, latitude, date and locality.

**File 4\_incidence\_by\_specie (Format CSV):** list of species and incidence by sample.

## Clench's Model Output (STATISTICA v.10):

Model is:  $V2=(a*V1)/(1+b*V1)$

Dependent variable: S (EST)

Independent variables: 1

Loss function:  $(EST-PRED)^2$

Final value: 104,807.19101

Proportion of variance accounted for: 0.959277468, R = 0.979427112

Variance explained: 95.928%

Table Suppl. II – 1. Values generated by the Clench's model

n	a	b
613	4.770193	0.012938

Ec. Suppl. II – 1. Clench model

$$S(pred) = \frac{4.770193 * n}{1 + 0.012938 * n}$$

Table Suppl. II – 2. Percentage of undetected species

Estimator	(%)
Second-order Jackknife	47.88
Bootstrap	11.99

Table Suppl. II – 3. Calculated variables

Variable	Value
Slope (S', specie/sample)	0.0598
Asymptote (a/b)	368.68
Quality [q (%)]	93.85
Uniques (%)	28.32
Duplicates (%)	8.67

Table Suppl. II – 4. Independent variable (n), dependent variable [S (EST)], value predicted by the Clench's model [S (PRED)], and loss function.

Sample (n)	S (EST)	S (PRED)	Loss function
1	16.53	4.71	139.73
2	29.38	9.30	403.22
3	39.78	13.78	676.22
4	48.49	18.14	921.01
5	55.97	22.40	1126.83
6	62.53	26.56	1293.89
7	68.37	30.62	1425.19
8	73.63	34.58	1524.74
9	78.43	38.45	1598.09
10	82.84	42.24	1648.60
11	86.92	45.93	1679.81
12	90.72	49.55	1695.03
13	94.28	53.08	1697.13
14	97.62	56.54	1687.49
15	100.78	59.92	1669.28
16	103.76	63.23	1642.45
17	106.60	66.47	1610.22
18	109.31	69.64	1573.40
19	111.89	72.75	1531.97
20	114.37	75.79	1488.31
21	116.74	78.77	1441.62
22	119.03	81.69	1394.19
23	121.23	84.55	1345.22
24	123.35	87.36	1295.43
25	125.41	90.11	1246.21

26	127.39	92.81	1196.10
27	129.32	95.45	1147.14
28	131.19	98.05	1098.55
29	133.00	100.59	1050.28
30	134.77	103.09	1003.58
31	136.48	105.54	957.08
32	138.16	107.95	912.58
33	139.79	110.32	868.77
34	141.38	112.64	826.18
35	142.94	114.92	785.29
36	144.46	117.16	745.46
37	145.95	119.36	707.15
38	147.40	121.52	669.76
39	148.83	123.65	634.24
40	150.22	125.73	599.52
41	151.59	127.79	566.50
42	152.93	129.81	534.62
43	154.25	131.79	504.27
44	155.54	133.75	474.93
45	156.81	135.67	446.97
46	158.05	137.56	419.91
47	159.28	139.42	394.50
48	160.48	141.25	369.88
49	161.67	143.05	346.75
50	162.83	144.82	324.31
51	163.98	146.57	303.24
52	165.10	148.28	282.77
53	166.22	149.98	263.87
54	167.31	151.64	245.49
55	168.39	153.28	228.24
56	169.45	154.90	211.75
57	170.50	156.49	196.27
58	171.53	158.06	181.47
59	172.55	159.60	167.59
60	173.55	161.13	154.33
61	174.54	162.63	141.89
62	175.52	164.11	130.25
63	176.48	165.57	119.12
64	177.43	167.00	108.72
65	178.37	168.42	98.99
66	179.30	169.82	89.90
67	180.21	171.20	81.24
68	181.12	172.56	73.35
69	182.01	173.90	65.83
70	182.90	175.22	59.00
71	183.77	176.52	52.51

72	184.63	177.81	46.50
73	185.49	179.08	41.08
74	186.33	180.33	35.95
75	187.16	181.57	31.24
76	187.99	182.79	27.03
77	188.80	184.00	23.08
78	189.61	185.19	19.58
79	190.41	186.36	16.41
80	191.20	187.52	13.55
81	191.98	188.66	11.00
82	192.75	189.79	8.74
83	193.52	190.91	6.81
84	194.28	192.01	5.15
85	195.03	193.10	3.72
86	195.77	194.18	2.54
87	196.51	195.24	1.62
88	197.24	196.29	0.91
89	197.96	197.32	0.40
90	198.67	198.35	0.10
91	199.38	199.36	0.00
92	200.08	200.36	0.08
93	200.78	201.35	0.32
94	201.47	202.33	0.73
95	202.15	203.29	1.30
96	202.83	204.25	2.00
97	203.50	205.19	2.85
98	204.16	206.12	3.85
99	204.82	207.04	4.95
100	205.48	207.96	6.13
101	206.12	208.86	7.49
102	206.77	209.75	8.87
103	207.40	210.63	10.44
104	208.04	211.50	11.99
105	208.66	212.36	13.72
106	209.29	213.22	15.42
107	209.90	214.06	17.31
108	210.52	214.90	19.14
109	211.12	215.72	21.17
110	211.72	216.54	23.21
111	212.32	217.35	25.26
112	212.92	218.15	27.30
113	213.51	218.94	29.45
114	214.09	219.72	31.69
115	214.67	220.49	33.92
116	215.25	221.26	36.13
117	215.82	222.02	38.43

118	216.38	222.77	40.84
119	216.95	223.51	43.08
120	217.51	224.25	45.42
121	218.06	224.98	47.86
122	218.61	225.70	50.25
123	219.16	226.41	52.60
124	219.71	227.12	54.90
125	220.25	227.82	57.30
126	220.78	228.51	59.79
127	221.32	229.20	62.07
128	221.84	229.88	64.61
129	222.37	230.55	66.93
130	222.89	231.22	69.34
131	223.41	231.88	71.69
132	223.93	232.53	73.98
133	224.44	233.18	76.36
134	224.95	233.82	78.67
135	225.46	234.45	80.91
136	225.96	235.08	83.25
137	226.46	235.71	85.52
138	226.95	236.33	87.90
139	227.45	236.94	90.01
140	227.94	237.54	92.23
141	228.43	238.14	94.37
142	228.91	238.74	96.62
143	229.39	239.33	98.79
144	229.87	239.91	100.88
145	230.35	240.49	102.89
146	230.82	241.07	105.01
147	231.29	241.64	107.05
148	231.76	242.20	109.00
149	232.22	242.76	111.08
150	232.69	243.31	112.86
151	233.15	243.86	114.76
152	233.60	244.41	116.79
153	234.06	244.95	118.52
154	234.51	245.48	120.37
155	234.96	246.01	122.14
156	235.41	246.54	123.83
157	235.85	247.06	125.64
158	236.30	247.58	127.15
159	236.74	248.09	128.79
160	237.17	248.60	130.57
161	237.61	249.10	132.04
162	238.04	249.60	133.64
163	238.47	250.10	135.16

164	238.90	250.59	136.60
165	239.33	251.07	137.94
166	239.75	251.56	139.44
167	240.18	252.04	140.61
168	240.60	252.51	141.93
169	241.02	252.98	143.16
170	241.43	253.45	144.55
171	241.85	253.92	145.61
172	242.26	254.38	146.83
173	242.67	254.83	147.96
174	243.08	255.29	149.01
175	243.48	255.74	150.22
176	243.89	256.18	151.10
177	244.29	256.62	152.15
178	244.69	257.06	153.11
179	245.09	257.50	153.99
180	245.49	257.93	154.79
181	245.88	258.36	155.76
182	246.27	258.79	156.64
183	246.67	259.21	157.20
184	247.06	259.63	157.93
185	247.44	260.04	158.83
186	247.83	260.46	159.40
187	248.21	260.86	160.14
188	248.60	261.27	160.56
189	248.98	261.67	161.15
190	249.36	262.07	161.67
191	249.73	262.47	162.37
192	250.11	262.87	162.73
193	250.49	263.26	163.03
194	250.86	263.65	163.50
195	251.23	264.03	163.91
196	251.60	264.42	164.24
197	251.97	264.80	164.50
198	252.33	265.17	164.94
199	252.70	265.55	165.06
200	253.06	265.92	165.37
201	253.42	266.29	165.61
202	253.79	266.66	165.52
203	254.14	267.02	165.88
204	254.50	267.38	165.92
205	254.86	267.74	165.89
206	255.21	268.10	166.05
207	255.57	268.45	165.89
208	255.92	268.80	165.93
209	256.27	269.15	165.90

210	256.62	269.50	165.81
211	256.97	269.84	165.65
212	257.31	270.18	165.70
213	257.66	270.52	165.42
214	258.00	270.86	165.34
215	258.35	271.19	164.95
216	258.69	271.53	164.76
217	259.03	271.86	164.50
218	259.37	272.18	164.19
219	259.70	272.51	164.08
220	260.04	272.83	163.66
221	260.38	273.15	163.18
222	260.71	273.47	162.91
223	261.04	273.79	162.58
224	261.37	274.11	162.19
225	261.70	274.42	161.76
226	262.03	274.73	161.27
227	262.36	275.04	160.73
228	262.69	275.34	160.14
229	263.01	275.65	159.75
230	263.34	275.95	159.07
231	263.66	276.25	158.58
232	263.98	276.55	158.05
233	264.30	276.85	157.47
234	264.62	277.14	156.84
235	264.94	277.44	156.17
236	265.26	277.73	155.45
237	265.58	278.02	154.69
238	265.89	278.31	154.13
239	266.21	278.59	153.28
240	266.52	278.87	152.64
241	266.83	279.16	151.95
242	267.15	279.44	150.98
243	267.46	279.72	150.21
244	267.77	279.99	149.40
245	268.07	280.27	148.79
246	268.38	280.54	147.90
247	268.69	280.81	146.98
248	268.99	281.08	146.25
249	269.30	281.35	145.25
250	269.60	281.62	144.45
251	269.90	281.88	143.62
252	270.20	282.15	142.74
253	270.51	282.41	141.60
254	270.80	282.67	140.90
255	271.10	282.93	139.92

256	271.40	283.19	138.91
257	271.70	283.44	137.87
258	271.99	283.70	137.03
259	272.29	283.95	135.93
260	272.58	284.20	135.03
261	272.88	284.45	133.86
262	273.17	284.70	132.90
263	273.46	284.94	131.90
264	273.75	285.19	130.88
265	274.04	285.43	129.83
266	274.33	285.68	128.75
267	274.62	285.92	127.64
268	274.90	286.16	126.73
269	275.19	286.40	125.57
270	275.48	286.63	124.38
271	275.76	286.87	123.39
272	276.05	287.10	122.16
273	276.33	287.34	121.12
274	276.61	287.57	120.05
275	276.89	287.80	118.97
276	277.17	288.03	117.86
277	277.45	288.25	116.72
278	277.73	288.48	115.57
279	278.01	288.71	114.39
280	278.29	288.93	113.19
281	278.56	289.15	112.18
282	278.84	289.37	110.95
283	279.11	289.59	109.90
284	279.39	289.81	108.62
285	279.66	290.03	107.53
286	279.94	290.25	106.22
287	280.21	290.46	105.10
288	280.48	290.68	103.95
289	280.75	290.89	102.79
290	281.02	291.10	101.62
291	281.29	291.31	100.42
292	281.56	291.52	99.22
293	281.83	291.73	97.99
294	282.09	291.94	96.95
295	282.36	292.14	95.70
296	282.63	292.35	94.43
297	282.89	292.55	93.34
298	283.15	292.75	92.24
299	283.42	292.96	90.94
300	283.68	293.16	89.81
301	283.94	293.36	88.67



302	284.21	293.56	87.33
303	284.47	293.75	86.17
304	284.73	293.95	84.99
305	284.99	294.14	83.81
306	285.25	294.34	82.61
307	285.50	294.53	81.59
308	285.76	294.73	80.37
309	286.02	294.92	79.15
310	286.27	295.11	78.09
311	286.53	295.30	76.85
312	286.79	295.48	75.60
313	287.04	295.67	74.52
314	287.29	295.86	73.43
315	287.55	296.04	72.16
316	287.80	296.23	71.06
317	288.05	296.41	69.94
318	288.30	296.60	68.82
319	288.56	296.78	67.53
320	288.81	296.96	66.40
321	289.06	297.14	65.27
322	289.30	297.32	64.29
323	289.55	297.50	63.15
324	289.80	297.67	62.00
325	290.05	297.85	60.85
326	290.30	298.03	59.69
327	290.54	298.20	58.69
328	290.79	298.37	57.53
329	291.03	298.55	56.52
330	291.28	298.72	55.35
331	291.52	298.89	54.34
332	291.76	299.06	53.32
333	292.01	299.23	52.15
334	292.25	299.40	51.13
335	292.49	299.57	50.10
336	292.73	299.74	49.08
337	292.97	299.90	48.05
338	293.21	300.07	47.03
339	293.45	300.23	46.00
340	293.69	300.40	44.98
341	293.93	300.56	43.95
342	294.17	300.72	42.93
343	294.41	300.88	41.91
344	294.64	301.04	41.02
345	294.88	301.21	40.01
346	295.12	301.36	38.99
347	295.35	301.52	38.11

348	295.59	301.68	37.10
349	295.82	301.84	36.22
350	296.06	301.99	35.22
351	296.29	302.15	34.34
352	296.52	302.31	33.47
353	296.76	302.46	32.49
354	296.99	302.61	31.62
355	297.22	302.77	30.76
356	297.45	302.92	29.90
357	297.68	303.07	29.05
358	297.91	303.22	28.20
359	298.14	303.37	27.36
360	298.37	303.52	26.52
361	298.60	303.67	25.69
362	298.83	303.82	24.86
363	299.05	303.96	24.14
364	299.28	304.11	23.33
365	299.51	304.26	22.53
366	299.74	304.40	21.73
367	299.96	304.55	21.03
368	300.19	304.69	20.25
369	300.41	304.83	19.57
370	300.64	304.98	18.81
371	300.86	305.12	18.14
372	301.09	305.26	17.39
373	301.31	305.40	16.74
374	301.53	305.54	16.09
375	301.75	305.68	15.45
376	301.98	305.82	14.74
377	302.20	305.96	14.12
378	302.42	306.10	13.51
379	302.64	306.23	12.91
380	302.86	306.37	12.32
381	303.08	306.51	11.73
382	303.30	306.64	11.16
383	303.52	306.78	10.60
384	303.74	306.91	10.05
385	303.96	307.04	9.51
386	304.17	307.18	9.04
387	304.39	307.31	8.52
388	304.61	307.44	8.01
389	304.82	307.57	7.58
390	305.04	307.70	7.09
391	305.26	307.83	6.62
392	305.47	307.96	6.22
393	305.69	308.09	5.77

394	305.90	308.22	5.39
395	306.12	308.35	4.97
396	306.33	308.48	4.61
397	306.54	308.60	4.26
398	306.76	308.73	3.88
399	306.97	308.86	3.55
400	307.18	308.98	3.24
401	307.39	309.11	2.94
402	307.61	309.23	2.62
403	307.82	309.35	2.35
404	308.03	309.48	2.09
405	308.24	309.60	1.85
406	308.45	309.72	1.62
407	308.66	309.84	1.40
408	308.87	309.96	1.20
409	309.08	310.09	1.01
410	309.28	310.21	0.86
411	309.49	310.33	0.70
412	309.70	310.44	0.56
413	309.91	310.56	0.43
414	310.12	310.68	0.32
415	310.32	310.80	0.23
416	310.53	310.92	0.15
417	310.74	311.03	0.09
418	310.94	311.15	0.04
419	311.15	311.27	0.01
420	311.35	311.38	0.00
421	311.56	311.50	0.00
422	311.76	311.61	0.02
423	311.97	311.73	0.06
424	312.17	311.84	0.11
425	312.37	311.95	0.17
426	312.58	312.06	0.27
427	312.78	312.18	0.36
428	312.98	312.29	0.48
429	313.18	312.40	0.61
430	313.38	312.51	0.75
431	313.59	312.62	0.94
432	313.79	312.73	1.12
433	313.99	312.84	1.32
434	314.19	312.95	1.54
435	314.39	313.06	1.77
436	314.59	313.17	2.02
437	314.79	313.28	2.29
438	314.99	313.38	2.58
439	315.19	313.49	2.89

440	315.39	313.60	3.21
441	315.58	313.70	3.52
442	315.78	313.81	3.88
443	315.98	313.91	4.26
444	316.18	314.02	4.67
445	316.37	314.12	5.04
446	316.57	314.23	5.48
447	316.77	314.33	5.94
448	316.96	314.44	6.37
449	317.16	314.54	6.87
450	317.35	314.64	7.33
451	317.55	314.74	7.87
452	317.74	314.85	8.37
453	317.94	314.95	8.95
454	318.13	315.05	9.49
455	318.33	315.15	10.11
456	318.52	315.25	10.69
457	318.71	315.35	11.29
458	318.91	315.45	11.97
459	319.10	315.55	12.61
460	319.29	315.65	13.27
461	319.49	315.75	14.02
462	319.68	315.84	14.71
463	319.87	315.94	15.43
464	320.06	316.04	16.16
465	320.25	316.14	16.92
466	320.44	316.23	17.69
467	320.63	316.33	18.49
468	320.82	316.43	19.31
469	321.01	316.52	20.15
470	321.20	316.62	21.01
471	321.39	316.71	21.89
472	321.58	316.81	22.79
473	321.77	316.90	23.71
474	321.96	316.99	24.65
475	322.15	317.09	25.62
476	322.34	317.18	26.61
477	322.52	317.27	27.52
478	322.71	317.37	28.55
479	322.90	317.46	29.60
480	323.09	317.55	30.68
481	323.27	317.64	31.67
482	323.46	317.73	32.79
483	323.65	317.82	33.93
484	323.83	317.92	34.98
485	324.02	318.01	36.17

486	324.20	318.10	37.26
487	324.39	318.19	38.50
488	324.57	318.27	39.63
489	324.76	318.36	40.91
490	324.94	318.45	42.09
491	325.13	318.54	43.42
492	325.31	318.63	44.64
493	325.50	318.72	46.01
494	325.68	318.80	47.28
495	325.86	318.89	48.56
496	326.05	318.98	50.01
497	326.23	319.06	51.34
498	326.41	319.15	52.69
499	326.59	319.24	54.07
500	326.78	319.32	55.61
501	326.96	319.41	57.03
502	327.14	319.49	58.48
503	327.32	319.58	59.94
504	327.50	319.66	61.43
505	327.68	319.75	62.94
506	327.86	319.83	64.48
507	328.04	319.91	66.03
508	328.22	320.00	67.61
509	328.40	320.08	69.22
510	328.58	320.16	70.85
511	328.76	320.25	72.50
512	328.94	320.33	74.17
513	329.12	320.41	75.87
514	329.30	320.49	77.59
515	329.48	320.57	79.34
516	329.66	320.65	81.11
517	329.84	320.73	82.91
518	330.01	320.82	84.55
519	330.19	320.90	86.39
520	330.37	320.98	88.26
521	330.55	321.06	90.15
522	330.72	321.13	91.88
523	330.90	321.21	93.82
524	331.08	321.29	95.79
525	331.25	321.37	97.59
526	331.43	321.45	99.60
527	331.60	321.53	101.45
528	331.78	321.61	103.51
529	331.96	321.68	105.61
530	332.13	321.76	107.52
531	332.31	321.84	109.66

532	332.48	321.91	111.62
533	332.66	321.99	113.81
534	332.83	322.07	115.82
535	333.00	322.14	117.85
536	333.18	322.22	120.12
537	333.35	322.30	122.20
538	333.53	322.37	124.52
539	333.70	322.45	126.65
540	333.87	322.52	128.80
541	334.05	322.60	131.20
542	334.22	322.67	133.40
543	334.39	322.74	135.62
544	334.56	322.82	137.87
545	334.73	322.89	140.14
546	334.91	322.97	142.67
547	335.08	323.04	144.99
548	335.25	323.11	147.34
549	335.42	323.18	149.71
550	335.59	323.26	152.10
551	335.76	323.33	154.52
552	335.93	323.40	156.97
553	336.10	323.47	159.44
554	336.27	323.54	161.93
555	336.44	323.62	164.45
556	336.61	323.69	167.00
557	336.78	323.76	169.57
558	336.95	323.83	172.16
559	337.12	323.90	174.78
560	337.29	323.97	177.43
561	337.46	324.04	180.10
562	337.63	324.11	182.80
563	337.80	324.18	185.52
564	337.97	324.25	188.28
565	338.14	324.32	191.05
566	338.30	324.39	193.58
567	338.47	324.46	196.40
568	338.64	324.52	199.26
569	338.81	324.59	202.14
570	338.97	324.66	204.76
571	339.14	324.73	207.69
572	339.31	324.80	210.65
573	339.47	324.86	213.35
574	339.64	324.93	216.36
575	339.81	325.00	219.40
576	339.97	325.06	222.16
577	340.14	325.13	225.25

578	340.31	325.20	228.37
579	340.47	325.26	231.22
580	340.64	325.33	234.39
581	340.80	325.40	237.28
582	340.97	325.46	240.50
583	341.13	325.53	243.45
584	341.30	325.59	246.73
585	341.46	325.66	249.72
586	341.63	325.72	253.05
587	341.79	325.79	256.09
588	341.95	325.85	259.16
589	342.12	325.92	262.57
590	342.28	325.98	265.69
591	342.44	326.04	268.83
592	342.61	326.11	272.33
593	342.77	326.17	275.52
594	342.93	326.23	278.74
595	343.10	326.30	282.32
596	343.26	326.36	285.59
597	343.42	326.42	288.89
598	343.58	326.49	292.21
599	343.75	326.55	295.90
600	343.92	326.61	299.62
601	344.07	326.67	302.67
602	344.23	326.73	306.10
603	344.39	326.80	309.55
604	344.56	326.86	313.38
605	344.72	326.92	316.88
606	344.88	326.98	320.41
607	345.04	327.04	323.97
608	345.20	327.10	327.55
609	345.36	327.16	331.16
610	345.52	327.22	334.79
611	345.68	327.28	338.46
612	345.84	327.34	342.14
613	346.00	327.40	345.86