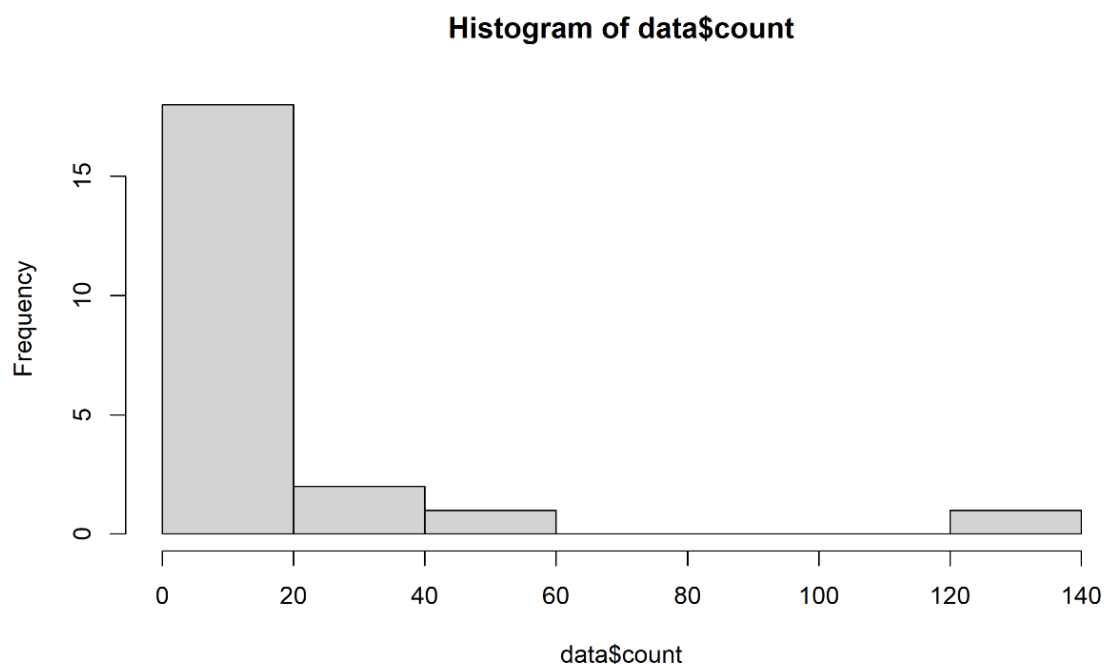
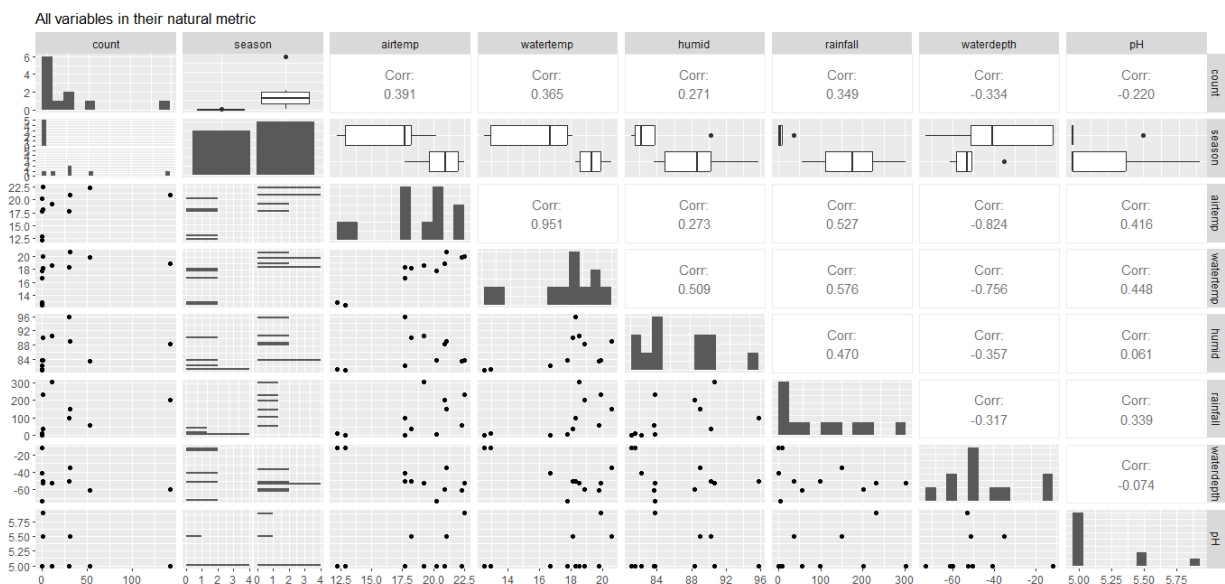


Supplementary materials



S1. Histogram showing the non-normal distribution of the count data.



S2. The main diagonal represents the data distribution of the variable. The upper half diagonal represents the values of correlation coefficients. The lower half diagonal represents a scatter plot between two variables.



S3. Scatterplots of 15 morphometric traits versus snout–vent length (SVL) for male (blue) and female (red) *Tylototriton panhai*. Linear regression lines are shown to illustrate linear relationship between traits.

Remarks: cloacal height (CLH), cloacal length (CLL), cloacal width (CLW), eye length (EL), eye-naris distance (END), femur length (FML), head length (HDL), humerus length (HML), head width (HW), internarial distance (IND), radius length (RDL), tibia length (TBL), tail length (TL), and tail height (TLH), total length (TTL), snout to vent length (SVL).

S4. Jolly–Seber models of first 30 models fitted to data from July 2020 to May 2022.

No.	Model	npar	AIC	ΔAIC	weight	-2lnL
16	Phi(~1)p(~time)pent(~sex)N(~sex)	10	180.9084	0.0000000	0.5041755	160.9084
34	Phi(~sex)p(~time)pent(~sex)N(~sex)	11	181.6550	0.7465486	0.3471129	159.6550
52	Phi(~time)p(~time)pent(~sex)N(~sex)	13	185.0851	4.1766897	0.0624633	159.0851
32	Phi(~sex)p(~time)pent(~1)N(~sex)	10	185.7300	4.8215357	0.0452479	165.7300
14	Phi(~1)p(~time)pent(~1)N(~sex)	9	186.5867	5.6782344	0.0294828	168.5867
33	Phi(~sex)p(~time)pent(~sex)N(~1)	10	190.6496	9.7412138	0.0038663	170.6496
50	Phi(~time)p(~time)pent(~1)N(~sex)	12	191.0563	10.1478695	0.0031550	167.0563
36	Phi(~sex)p(~time)pent(~time)N(~sex)	13	191.7299	10.8215165	0.0022527	165.7299
18	Phi(~1)p(~time)pent(~time)N(~sex)	12	192.0132	11.1047941	0.0019552	168.0132
54	Phi(~time)p(~time)pent(~time)N(~sex)	15	195.8519	14.9435077	0.0002868	165.8519
31	Phi(~sex)p(~time)pent(~1)N(~1)	9	208.0221	27.1137118	0.0000006	190.0221
53	Phi(~time)p(~time)pent(~time)N(~1)	14	209.0807	28.1723042	0.0000003	181.0807
35	Phi(~sex)p(~time)pent(~time)N(~1)	12	210.3682	29.4597786	0.0000002	186.3682
17	Phi(~1)p(~time)pent(~time)N(~1)	11	214.9495	34.0410245	0.0000000	192.9495
51	Phi(~time)p(~time)pent(~sex)N(~1)	12	217.9537	37.0453047	0.0000000	193.9537
15	Phi(~1)p(~time)pent(~sex)N(~1)	9	218.4921	37.5836643	0.0000000	200.4921
49	Phi(~time)p(~time)pent(~1)N(~1)	11	220.6569	39.7485102	0.0000000	198.6569
13	Phi(~1)p(~time)pent(~1)N(~1)	8	223.0115	42.1030706	0.0000000	207.0115
47	Phi(~time)p(~sex)pent(~time)N(~1)	11	234.7836	53.8751695	0.0000000	212.7836
42	Phi(~time)p(~1)pent(~time)N(~sex)	11	235.9126	55.0042093	0.0000000	213.9126
48	Phi(~time)p(~sex)pent(~time)N(~sex)	12	236.5696	55.6611864	0.0000000	212.5696
30	Phi(~sex)p(~sex)pent(~time)N(~sex)	10	247.6606	66.7521659	0.0000000	227.6606
11	Phi(~1)p(~sex)pent(~time)N(~1)	8	248.4224	67.5139380	0.0000000	232.4224
29	Phi(~sex)p(~sex)pent(~time)N(~1)	9	248.5414	67.6329488	0.0000000	230.5414
6	Phi(~1)p(~1)pent(~time)N(~sex)	8	248.6253	67.7169211	0.0000000	232.6253
24	Phi(~sex)p(~1)pent(~time)N(~sex)	9	248.7099	67.8014246	0.0000000	230.7099
12	Phi(~1)p(~sex)pent(~time)N(~sex)	9	250.3685	69.4600785	0.0000000	232.3685
45	Phi(~time)p(~sex)pent(~sex)N(~1)	9	268.4957	87.5872623	0.0000000	250.4957
46	Phi(~time)p(~sex)pent(~sex)N(~sex)	10	270.2565	89.3481038	0.0000000	250.2565
40	Phi(~time)p(~1)pent(~sex)N(~sex)	9	270.3845	89.4760532	0.0000000	252.3845

S5. Recapture history of male *T. panhai* between May 2021 and April 2022

No.	May-2021	June-2021	July-2021	November-2021	April-2022
4	1	0	0	0	1
6	1	0	0	0	1
17	1	0	0	0	1
21	1	0	1	1	1
26	1	0	0	0	1
27	1	0	0	0	1
28	1	0	0	0	1
35	1	0	1	0	0
37	1	0	0	0	1
42	0	0	1	0	1
43	0	0	1	0	1
47	0	1	1	0	1
51	0	1	1	0	1
52	0	1	0	0	1
53	0	1	0	0	1
54	0	1	0	0	1
58	0	1	1	0	1
59	0	1	0	0	1
60	0	1	0	0	1
64	0	1	0	0	1