Table S1. Hindlimb strain data across strain gauge metrics, reported for each individual from which data were successfully collected, with mass and snout-vent length (SVL).
"R" in gauge metric row indicates that this metric was associated with the rosette gauge. Values in first five rows indicate the average maximum/minimum strain (units in microstrain, $\mu\varepsilon = 10^{-6} \times$ strain) ± standard deviation, with number of steps in parentheses.

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG01 - mass=1.27 kg; SVL=34.29 cm	SE-Ventral	-164±156 (N = 13)	-78±57 (N = 23)	-108±66 (N = 13)	-73±63 (N = 13)	-117±79 (N = 8)
	SE-Anterior	-208±125 (N = 13)	-297±198 (N = 23)	-758±239 (N = 13)	-336±304 (N = 13)	-117±98 (N = 8)
	SE-R Dorsal	119±61 (N = 13)	191±103 (N = 23)	570±189 (N = 13)	426±344 (N = 13)	108±80 (N = 8)
	R-pT	443±303 (N = 13)	351±187 (N = 23)	576±187 (N = 13)	475±291 (N = 13)	417±180 (N = 8)
	R-pC	-416±259 (N = 13)	-600±380 (N = 23)	-1680±509 (N = 13)	-984±832 (N = 11)	-322±152 (N = 8)
	R-Shear	278±155 (N = 13)	281±142 (N = 23)	489±104 (N = 13)	416±384 (N = 13)	111±41 (N = 8)
	R-Phi (units in degrees)	49±26 (N = 13)	45±27 (N = 23)	22±20 (N = 13)	43±32 (N = 13)	39±38 (N = 8)
IG02 - mass=1.05 kg; SVL=33.66	SE-Ventral	133±76 (N = 25)	172±119 (N = 19)	161±97 (N = 21)	177±87 (N = 19)	159±50 (N = 22)
	SE-Anterior	-115±92 (N = 25)	-185±171 (N = 19)	-334±160 (N = 21)	-236±122 (N = 19)	-106±87 (N = 22)
	SE-R Dorsal	113±88 (N = 25)	173±130 (N = 19)	274±112 (N = 21)	276±121 (N = 19)	143±110 (N = 22)
	R-pT	158±87 (N = 25)	274±158 (N = 19)	316±114 (N = 21)	325±124 (N = 19)	600±566 (N = 20)
	R-pC	-435±417 (N = 25)	-797±490 (N = 18)	-1400±557 (N = 20)	-1090±493 (N = 19)	-671±568 (N = 22)
	R-Shear	260±186 (N = 25)	378±123 (N = 19)	324±144 (N = 21)	376±144 (N = 19)	614±468 (N = 20)
	R-Phi (units in degrees)	63±40 (N = 25)	53±25 (N = 19)	69±28 (N = 21)	76±12 (N = 19)	47±24 (N = 20)

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG03 - mass=0.86 kg; SVL=30.8 cm	SE-Ventral	78±91 (N = 27)	114±131 (N = 32)	353±206 (N = 24)	328±218 (N = 22)	114±204 (N = 12)
	SE-Anterior	-258±219 (N = 24)	-251±148 (N = 32)	-269±120 (N = 24)	-297±132 (N = 4)	-190±144 (N = 12)
	SE-R Dorsal	-197±83 (N = 27)	-132±78 (N = 32)	-165±90 (N = 24)	-181±75 (N = 18)	-209±99 (N = 12)
	R-pT	845±1 (N = 2)		313±177 (N = 24)	281±207 (N = 17)	157±142 (N = 9)
	R-pC	-1543±331 (N = 7)		-802±429 (N = 24)	-630±368 (N = 17)	-459±327 (N = 9)
	R-Shear			283±158 (N = 24)	345±256 (N = 17)	139±140 (N = 9)
	R-Phi (units in degrees)			48±25 (N = 24)	31±21 (N = 17)	
IG04 - mass=0.86 kg; SVL=30.16 cm	SE-Ventral			304±181 (N = 17)	462±244 (N = 18)	
	SE-Anterior			285±322 (N = 16)	125±49 (N = 15)	
	SE-R Dorsal			256±94 (N = 17)	333±66 (N = 18)	
	R-pT			354±650 (N = 17)	487±287 (N = 18)	
	R-pC			-768±238 (N = 17)	-809±264 (N = 18)	
	R-Shear			297±663 (N = 17)	391±192 (N = 18)	
	R-Phi (units in degrees)			16±13 (N = 17)	18±18 (N = 18)	

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG05 - mass=1.05 kg; SVL=36.51 cm	SE-Ventral					
	SE-Anterior	-630±594 (N = 2)	-529±220 (N = 15)			
	SE-R Dorsal	268±38 (N = 2)	451±307 (N = 15)			
	R-pT	326±120 (N = 2)	531±281 (N = 15)			
	R-pC	-1392±376 (N = 2)	-1782±570 (N = 13)			
	R-Shear	589±377 (N = 2)	563±248 (N = 15)			
	R-Phi (units in degrees)	57±38 (N = 2)	52±31 (N = 15)			

Table S2. Forelimb strain data across strain gauge metrics reported for each individual from which data were successfully collected, with mass and snout-vent length (SVL). "R" in gauge metric row indicates that this metric was associated with the rosette gauge. Values in first five rows indicate the average maximum/minimum strain (units in microstrain, $\mu\varepsilon = 10^{-6} \times$ strain) ± standard deviation, with number of steps in parentheses.

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG07 - mass=1.18 kg; SVL=29.72 cm	SE-Postero-ventral	266±149 (N = 23)	241±113 (N = 14)	430±143 (N = 34)	478±153 (N = 16)	
	SE-Ventral	430±244 (N = 23)	478±200 (N = 19)	833±274 (N = 34)	977±222 (N = 16)	
	SE-R Anterior			-1338±262 (N = 34)	-1329±408 (N = 16)	
	R-pT					
	R-pC					
	R-Shear					
	R-Phi (units in degrees)					
IG08 - mass=2.05 kg; 32.39 cm	SE-Postero-ventral	647±309 (N = 23)	531±448 (N = 25)	178±118 (N = 18)		248±128 (N = 26)
	SE-Ventral	213±216 (N = 23)	157±174 (N = 25)	139±82 (N = 18)		85±80 (N = 26)
	SE-R Anterior	-136±81 (N = 23)	-141±110 (N = 25)	-104±45 (N = 18)		-132±58 (N = 26)
	R-pT	434±176 (N = 23)	333±178 (N = 25)	271±90 (N = 18)		374±140 (N = 26)
	R-pC	-420±145 (N = 23)	-386±137 (N = 25)	-297±65 (N = 18)		-371±130 (N = 26)
	R-Shear	739±413 (N = 23)	683±309 (N = 25)	528±167 (N = 18)		719±267 (N = 26)
	R-Phi (units in degrees)	47±9 (N = 23)	49±4 (N = 25)	50±4 (N = 18)		50±3 (N = 26)

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG09 - mass=1.22 kg; SVL=35.81	SE-Postero-ventral			178±154 (N = 23)	253±406 (N = 22)	
	SE-Ventral					
	SE-R Anterior			-329±116 (N = 23)	-224±137 (N = 22)	
	R-pT			651±296 (N = 23)	413±87 (N = 22)	
	R-pC			-584±175 (N = 23)	-446±93 (N = 22)	
	R-Shear			983±318 (N = 23)	726±147 (N = 22)	
	R-Phi (units in degrees)			59±2 (N = 23)	59±4 (N = 22)	
IG12 - mass=2.5kg; SVL=44.7 cm	SE-Postero-ventral	-431±122 (N = 19)	-468±117 (N = 18)	-541±306 (N = 18)	-336±434 (N = 2)	-504±121 (N = 17)
	SE-Ventral	307±291 (N = 9)				
	SE-R Anterior	368±131 (N = 19)				
	R-pT					
	R-pC					
	R-Shear					
	R-Phi (units in degrees)					

Animal	Gauge metric	FL-LEV	FL-COMP	FL-INC	CURV-INC	CURV-LEV
IG13 - mass=1.13 kg; SVL=34.67	SE-Postero-ventral	379±165 (N = 17)	353±260 (N = 15)	540±220 (N = 22)	414±170 (N = 8)	219±142 (N = 19)
	SE-Ventral	-164±85 (N = 17)	-154±86 (N = 15)	-140±113 (N = 22)	-126±54 (N = 8)	-173±126 (N = 19)
	SE-R Anterior					
	R-pT		170±119 (N = 18)	196±89 (N = 22)	146±67 (N = 8)	
	R-pC		-270±126 (N = 18)	-317±132 (N = 22)	-278±152 (N = 8)	
	R-Shear		227±87 (N = 18)	270±114 (N = 22)	217±48 (N = 8)	
	R-Phi (units in degrees)			36±16 (N = 22)	44±18 (N = 8)	
IG14 - 1.36 kg; SVL=36.22 cm	SE-Postero-ventral	325±167 (N = 17)	537±212 (N = 15)	672±283 (N = 25)	1040±386 (N = 22)	259±273 (N = 17)
	SE-Ventral	288±107 (N = 17)	429±94 (N = 15)			246±128 (N = 17)
	SE-R Anterior	-324±188 (N = 17)	-446±313 (N = 15)	-422±175 (N = 25)	-414±176 (N = 22)	-283±284 (N = 17)
	R-pT	867±241 (N = 17)	987±330 (N = 15)	1324±340 (N = 25)	1712±457 (N = 22)	1042±279 (N = 17)
	R-pC	-1016±373 (N = 17)	-1301±310 (N = 15)	-1430±381 (N = 25)	-1519±527 (N = 22)	-1167±337 (N = 17)
	R-Shear	1801±654 (N = 17)	2185±688 (N = 15)	2648±699 (N = 25)	2810±834 (N = 22)	2166±594 (N = 17)
	R-Phi (units in degrees)	53±43 (N = 17)	47±7 (N = 15)	50±3 (N = 25)	51±5 (N = 22)	43±4 (N = 17)

Table S3. Total individual and interacting trackway factor influence on hindlimb (a) and forelimb (b) strain metrics. Type III ANOVA tests were performed, with *p*-value significance level indicated in the right column.

(a)

Hindlimb	Factor	Degrees of Freedom	F value	Pr(>F)	
Maximum SE-R Dorsal	angle	(1, 330)	35.196	0.000	***
	curvature	(1, 328)	0.267	0.606	
	stiffness	(1, 328)	0.570	0.451	
	mass	(1, 3)	0.401	0.573	
	angle:curvature	(1, 328)	3.531	0.061	
	angle:mass	(1, 329)	50.869	0.000	***
	curvature:mass	(1, 328)	0.452	0.502	
	stiffness:mass	(1, 328)	1.231	0.268	
	angle:curvature:mass	(1, 328)	3.984	0.047	*
Minimum SE-R Dorsal	angle	(1, 331)	0.900	0.343	
	curvature	(1, 328)	0.035	0.852	
	stiffness	(1, 328)	2.276	0.132	
	mass	(1, 3)	0.863	0.433	
	angle:curvature	(1, 328)	2.453	0.118	
	angle:mass	(1, 331)	0.380	0.538	
	curvature:mass	(1, 328)	0.009	0.924	
	stiffness:mass	(1, 328)	1.703	0.193	
	angle:curvature:mass	(1, 328)	3.079	0.080	
Minimum R-pC	angle	(1, 268)	22.075	0.000	***
	curvature	(1, 266)	0.616	0.433	
	stiffness	(1, 269)	1.728	0.190	
	mass	(1, 3)	0.112	0.762	
	angle:curvature	(1, 266)	10.781	0.001	**
	angle:mass	(1, 267)	32.732	0.000	***
	curvature:mass	(1, 266)	0.095	0.758	
	stiffness:mass	(1, 269)	2.417	0.121	
	angle:curvature:mass	(1, 266)	12.255	0.001	***
Maximum R-pT	angle	(1, 259)	0.018	0.894	
	curvature	(1, 268)	0.088	0.767	
	stiffness	(1, 252)	0.463	0.497	
	mass	(1, 3)	0.500	0.533	
	angle:curvature	(1, 268)	0.699	0.404	
	angle:mass	(1, 264)	0.027	0.870	
	curvature:mass	(1, 268)	0.000	0.992	
	stiffness:mass	(1, 259)	0.392	0.532	
	angle:curvature:mass	(1, 268)	1.401	0.238	
Maximum R-Shear	angle	(1, 263)	0.063	0.802	

	curvature	(1, 266)	2.932	0.088	
	stiffness	(1, 266)	0.930	0.336	
	mass	(1, 2)	0.104	0.773	
	angle:curvature	(1, 266)	0.292	0.590	
	angle:mass	(1, 264)	0.242	0.623	
	curvature:mass	(1, 266)	2.163	0.143	
	stiffness:mass	(1, 266)	0.740	0.391	
	angle:curvature:mass	(1, 266)	0.112	0.738	
Maximum SE-Ventral	angle	(1, 292)	14.937	0.000	***
	curvature	(1, 294)	3.807	0.052	
	stiffness	(1, 293)	6.328	0.012	*
	mass	(1, 3)	0.817	0.440	
	angle:curvature	(1, 294)	1.271	0.261	
	angle:mass	(1, 294)	12.143	0.001	***
	curvature:mass	(1, 293)	2.927	0.088	
	stiffness:mass	(1, 293)	5.245	0.023	*
	angle:curvature:mass	(1, 293)	0.870	0.352	
Minimum SE-Ventral	angle	(1, 289)	16.872	0.000	***
	curvature	(1, 294)	7.790	0.006	**
	stiffness	(1, 292)	1.389	0.239	
	mass	(1, 2)	3.024	0.216	
	angle:curvature	(1, 293)	8.354	0.004	**
	angle:mass	(1, 292)	28.015	0.000	***
	curvature:mass	(1, 293)	11.937	0.001	***
	stiffness:mass	(1, 292)	2.105	0.148	
	angle:curvature:mass	(1, 293)	10.569	0.001	**
Maximum SE-Anterior	angle	(1, 204)	40.386	0.000	***
	curvature	(1, 331)	4.126	0.043	*
	stiffness	(1, 332)	1.278	0.259	
	mass	(1, 1)	23.993	0.078	
	angle:curvature	(1, 331)	0.047	0.829	
	angle:mass	(1, 249)	30.460	0.000	***
	curvature:mass	(1, 331)	3.453	0.064	
	stiffness:mass	(1, 332)	1.067	0.302	
	angle:curvature:mass	(1, 331)	0.048	0.826	
Minimum SE-Anterior	angle	(1, 334)	4.948	0.027	*
	curvature	(1, 333)	1.048	0.307	
	stiffness	(1, 333)	0.252	0.616	
	mass	(1, 3)	0.014	0.913	

	angle:curvature	(1, 333)	0.092	0.762	
	angle:mass	(1, 334)	3.437	0.065	
	curvature:mass	(1, 333)	1.471	0.226	
	stiffness:mass	(1, 333)	0.392	0.532	
	angle:curvature:mass	(1, 333)	0.165	0.685	
* – <0.05 P-VALUE; ** – <0.01 P-VALUE; *** – <0.001 P-VALUE					

(b)

Forelimb	Factor	Degrees of Freedom	F value	Pr(>F)	
Maximum SE-R Anterior	angle	(1, 314)	59.346	0.000	***
	curvature	(1, 314)	11.581	0.001	***
	stiffness	(1, 313)	1.021	0.313	
	mass	(1, 5)	1.774	0.239	
	angle:curvature	(1, 313)	15.193	0.000	***
	angle:mass	(1, 314)	43.746	0.000	***
	curvature:mass	(1, 314)	13.754	0.000	***
	stiffness:mass	(1, 313)	0.675	0.412	
	angle:curvature:mass	(1, 313)	16.716	0.000	***
Minimum SE-R Anterior	angle	(1, 313)	0.693	0.406	
	curvature	(1, 312)	0.423	0.516	
	stiffness	(1, 311)	2.463	0.118	
	mass	(1, 5)	0.715	0.440	
	angle:curvature	(1, 311)	0.068	0.794	
	angle:mass	(1, 313)	0.285	0.594	
	curvature:mass	(1, 312)	0.270	0.604	
	stiffness:mass	(1, 312)	1.874	0.172	
	angle:curvature:mass	(1, 311)	0.080	0.777	
Minimum R-pC	angle	(1, 270)	1.234	0.268	
	curvature	(1, 269)	1.301	0.255	
	stiffness	(1, 269)	14.913	0.000	***
	mass	(1, 2)	0.020	0.900	
	angle:curvature	(1, 269)	7.655	0.006	**
	angle:mass	(1, 270)	0.056	0.813	
	curvature:mass	(1, 270)	2.115	0.147	
	stiffness:mass	(1, 269)	12.270	0.001	***
	angle:curvature:mass	(1, 270)	6.873	0.009	**
Maximum R-pT	angle	(1, 270)	3.994	0.047	*
	curvature	(1, 270)	24.148	0.000	***
	stiffness	(1, 269)	12.538	0.000	***
	mass	(1, 2)	0.664	0.499	
	angle:curvature	(1, 270)	46.013	0.000	***
	angle:mass	(1, 270)	11.463	0.001	***
	curvature:mass	(1, 270)	31.791	0.000	***
	stiffness:mass	(1, 269)	11.813	0.001	***
	angle:curvature:mass	(1, 270)	48.462	0.000	***
Maximum R-Shear	angle	(1, 270)	0.721	0.397	

	curvature	(1, 269)	1.835	0.177	
	stiffness	(1, 269)	16.804	0.000	***
	mass	(1, 2)	0.096	0.785	
	angle:curvature	(1, 269)	12.108	0.001	***
	angle:mass	(1, 270)	0.006	0.938	
	curvature:mass	(1, 269)	3.197	0.075	
	stiffness:mass	(1, 269)	14.942	0.000	***
	angle:curvature:mass	(1, 269)	10.837	0.001	**
Maximum SE-Posteroventral	angle	(1, 513)	1.186	0.277	
	curvature	(1, 513)	7.329	0.007	**
	stiffness	(1, 512)	1.146	0.285	
	mass	(1, 4)	1.140	0.340	
	angle:curvature	(1, 513)	4.561	0.033	*
	angle:mass	(1, 513)	3.057	0.081	
	curvature:mass	(1, 513)	8.737	0.003	**
	stiffness:mass	(1, 512)	1.293	0.256	
	angle:curvature:mass	(1, 513)	13.009	0.000	***
Minimum SE-Posteroventral	angle	(1, 512)	0.298	0.585	
	curvature	(1, 512)	8.653	0.003	**
	stiffness	(1, 512)	3.643	0.057	
	mass	(1, 4)	2.662	0.175	
	angle:curvature	(1, 512)	5.405	0.020	*
	angle:mass	(1, 512)	0.303	0.582	
	curvature:mass	(1, 512)	5.035	0.025	*
	stiffness:mass	(1, 512)	4.572	0.033	*
	angle:curvature:mass	(1, 512)	5.093	0.024	*
Maximum SE-Ventral	angle	(1, 315)	9.609	0.002	**
	curvature	(1, 315)	12.713	0.000	***
	stiffness	(1, 315)	1.225	0.269	
	mass	(1, 166)	8.346	0.004	**
	angle:curvature	(1, 315)	13.778	0.000	***
	angle:mass	(1, 315)	11.621	0.001	***
	curvature:mass	(1, 315)	13.201	0.000	***
	stiffness:mass	(1, 312)	0.732	0.393	
	angle:curvature:mass	(1, 315)	14.204	0.000	***
Minimum SE-Ventral	angle	(1, 313)	0.158	0.691	
	curvature	(1, 310)	0.041	0.840	
	stiffness	(1, 249)	1.008	0.316	
	mass	(1, 260)	0.000	0.989	

	angle:curvature	(1, 312)	0.146	0.702	
	angle:mass	(1, 312)	0.177	0.674	
	curvature:mass	(1, 310)	0.067	0.796	
	stiffness:mass	(1, 202)	0.584	0.446	
	angle:curvature:mass	(1, 312)	0.176	0.675	
* – <0.05 P-VALUE; ** – <0.01 P-VALUE; *** – <0.001 P-VALUE					