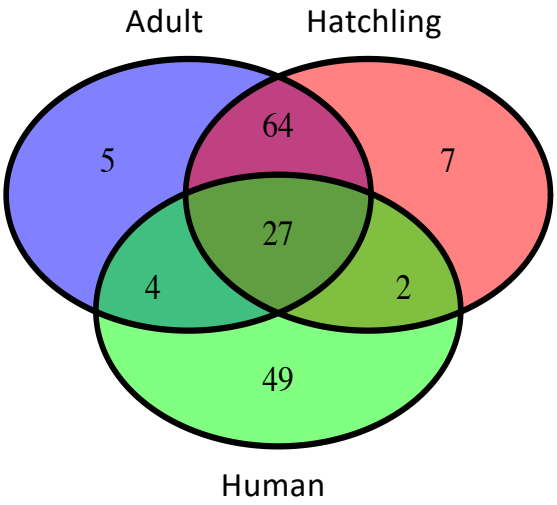

Figure S1: Abundantly expressed gene-coding transcripts in ventricular tissue from painted turtles and humans revealed 33 genes abundantly expressed in both species (Melé et al. 2015).

Table S1*: GPS Coordinates for Turtle Populations*

Location	Development Stage	Longitude	Latitude
Hideaway Harbor	Adults	38.937577	-90.369511
Stump Lake	Adults	38.982345	-90.550644
Teal Pond	Adults	38.873201	-90.197641
Arlington Drive	Adults, Hatchlings	38.705573	-90.050483
Lincoln Sheilds Recreational Area	Adults, Hatchlings	38.877174	-90.194825
Tucker Pond	Adults, Hatchlings	38.939815	-90.291639
Biehle	Hatchlings	37.6302949	-89.8710887

Table S2: *Most Abundantly Expressed Transcripts in Adults and Hatchling*

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
ACTA1	Contractile Apparatus	Adult	984.74 ± 232.61	1079.62 ± 374.40	1362.03 ± 260.24	85
		Hatchling	2144.04 ± 387.05	2152.79 ± 820.61	1463.62 ± 299.45	63
ACTB	Contractile Apparatus	Adult	875.34 ± 83.92	943.53 ± 81.57	1170.52 ± 80.58	99
		Hatchling	1175.23 ± 99.73	1192.73 ± 80.34	1355.48 ± 104.68	99
ACTG1	Contractile Apparatus	Adult	903.87 ± 34.13	732.94 ± 69.09	849.05 ± 114.04	116
		Hatchling	1525.19 ± 21.42	1573.56 ± 82.69	1469.86 ± 84.49	82
ACTN2, LOC103306205	Contractile Apparatus	Adult	901.76 ± 116.42	1110.24 ± 130.93	1136.01 ± 91.84	96
		Hatchling	1480.32 ± 96.30	1493.19 ± 131.43	1192.74 ± 65.09	90
ADIPOQ	signaling	Adult	1172.25 ± 107.20	829.41 ± 171.12	993.64 ± 100.05	98
		Hatchling	1058.74 ± 78.17	886.02 ± 95.10	675.75 ± 94.96	117
ATF4	Transcription Factor	Adult	946.97 ± 92.18	982.27 ± 38.94	1021.36 ± 92.35	101
		Hatchling	1379.59 ± 91.69	1456.46 ± 48.66	1591.89 ± 88.90	84
CRIP1	DNA Binding	Adult	1654.80 ± 118.35	1820.04 ± 327.69	1949.60 ± 383.86	49
		Hatchling	1532.44 ± 100.41	1235.31 ± 88.96	1023.24 ± 116.30	98
DES	Contractile Apparatus	Adult	1310.93 ± 195.29	1418.71 ± 208.76	1610.79 ± 185.12	75
		Hatchling	1740.31 ± 134.79	1821.89 ± 351.33	1476.41 ± 105.40	75
EEF1A1	Translational Regulation	Adult	1937.27 ± 98.78	1812.13 ± 147.24	1991.08 ± 93.62	43
		Hatchling	2639.75 ± 111.35	2905.59 ± 123.56	2838.94 ± 44.26	25
EEF1G	Translational Regulation	Adult	998.68 ± 78.17	859.72 ± 52.76	971.10 ± 78.53	109
		Hatchling	1203.65 ± 45.93	1321.70 ± 35.74	1268.81 ± 98.81	97
EEF2	Translational Regulation	Adult	1146.88 ± 22.67	1088.36 ± 54.19	1050.87 ± 28.81	91
		Hatchling	1522.00 ± 7.97	1670.33 ± 54.05	1481.65 ± 37.50	79
FAU	Translational Regulation	Adult	1200.90 ± 118.33	1076.95 ± 17.31	1268.50 ± 119.25	82
		Hatchling	1475.93 ± 17.12	1604.24 ± 38.00	1553.60 ± 132.55	81
FTH1	Cytoskeleton	Adult	2623.48 ± 270.36	2568.41 ± 42.88	2652.61 ± 349.34	12
		Hatchling	2646.79 ± 195.58	3112.60 ± 128.73	2723.89 ± 236.35	23
GAPDH	Metabolism	Adult	1044.44 ± 11.56	1106.74 ± 78.20	1017.78 ± 33.08	95
		Hatchling	1147.98 ± 43.24	1175.59 ± 90.39	1023.81 ± 112.97	107
GNB2L1	Protein Turnover	Adult	1065.72 ± 138.98	873.98 ± 10.15	954.94 ± 59.25	106
		Hatchling	1294.56 ± 102.30	1418.35 ± 107.51	1363.80 ± 94.23	93
HSPB7	Heat Shock	Adult	2143.36 ± 188.60	2402.01 ± 243.81	2273.96 ± 361.05	22
		Hatchling	2811.13 ± 128.60	2646.98 ± 110.06	2267.73 ± 80.51	32
LDHB	Metabolism	Adult	1247.34 ± 60.07	1392.34 ± 88.64	1404.50 ± 91.60	79
		Hatchling	1441.83 ± 80.48	1352.91 ± 113.96	1045.39 ± 75.65	96

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
LOC101931353	Translational Regulation	Adult	1958.53 ± 218.68	1890.14 ± 189.51	1961.87 ± 91.24	41
RPL36A		Hatchling	2601.00 ± 62.54	2723.95 ± 306.10	2820.87 ± 238.06	28
LOC101932957	Translational Regulation	Adult	1115.38 ± 76.11	1102.66 ± 34.18	1201.33 ± 55.63	87
RPS4		Hatchling	1383.48 ± 40.40	1513.68 ± 32.66	1408.27 ± 42.58	87
LOC101935401	Oxygen Transport	Adult	602.61 ± 137.23	381.69 ± 101.12	428.41 ± 94.71	177
HBA		Hatchling	764.21 ± 184.15	2132.55 ± 425.10	1806.81 ± 294.54	78
LOC101939003	Cytoskeleton	Adult	2176.23 ± 379.38	1124.98 ± 299.78	1471.82 ± 188.16	64
FTL-like		Hatchling	2224.20 ± 537.17	1973.44 ± 172.84	1836.76 ± 712.20	60
LOC101939634	Signaling	Adult	2184.56 ± 464.77	1922.89 ± 351.80	1713.20 ± 155.89	40
CXCL8-like		Hatchling	1431.57 ± 105.49	1231.48 ± 328.57	1463.78 ± 200.54	91
LOC101942276	Cytoskeleton	Adult	1501.65 ± 283.64	1761.94 ± 378.62	2750.23 ± 476.71	35
FTH-like		Hatchling	1374.29 ± 206.15	1883.13 ± 420.30	1596.11 ± 80.89	77
LOC101944357	Translational Regulation	Adult	2051.53 ± 75.50	1946.62 ± 119.16	2213.82 ± 89.32	29
CRIBP-like		Hatchling	2334.33 ± 34.68	2288.53 ± 56.18	2109.26 ± 99.91	47
LOC101945004	Hormone Homeostasis	Adult	4575.76 ± 1359.36	2465.91 ± 674.21	5059.27 ± 569.98	5
- NPPA-like		Hatchling	7531.70 ± 602.88	8909.36 ± 1738.91	4000.03 ± 754.74	2
LOC101950541	Metabolism	Adult	1279.36 ± 94.50	1389.28 ± 91.78	1202.75 ± 109.99	80
NME		Hatchling	1434.24 ± 115.69	1413.42 ± 43.21	1367.73 ± 106.73	88
LOC101950562	Translational Regulation	Adult	966.88 ± 140.84	907.36 ± 123.74	1073.18 ± 61.26	102
RPL10A		Hatchling	1264.05 ± 92.23	1353.66 ± 65.52	1270.12 ± 100.86	95
LOC101951135	Translational Regulation	Adult	1583.93 ± 97.05	1392.38 ± 71.50	1810.28 ± 133.53	62
RPL27A		Hatchling	2121.24 ± 60.44	2285.08 ± 99.74	2222.44 ± 97.39	50
LOC101951507	Translational Regulation	Adult	3959.26 ± 989.31	4217.45 ± 609.51	4943.54 ± 908.40	4
RPL21		Hatchling	6025.94 ± 785.40	6980.65 ± 370.55	5508.43 ± 932.51	3
LOC101953401	Oxygen Transport	Adult	1124.02 ± 290.52	710.12 ± 253.36	833.93 ± 232.40	114
HBB		Hatchling	767.51 ± 247.70	2067.65 ± 592.31	1494.93 ± 370.84	86
LOC103305994	Anti-oxidant	Adult	4629.61 ± 840.04	6907.55 ± 1139.74	8137.12 ± 1613.46	1
MT-like		Hatchling	6433.95 ± 877.02	8347.76 ± 2685.23	10412.37 ± 2352.01	1
MB	Oxygen Transport	Adult	1425.90 ± 153.78	2031.42 ± 629.26	1440.69 ± 480.99	60
		Hatchling	949.96 ± 219.71	784.45 ± 148.00	720.12 ± 188.42	121
MYH15	Contractile Apparatus	Adult	1461.36 ± 171.53	2043.16 ± 378.53	2255.45 ± 385.38	42
		Hatchling	2226.55 ± 379.68	1801.72 ± 296.21	1309.50 ± 47.66	70
MYL10	Contractile Apparatus	Adult	1646.88 ± 189.76	2019.96 ± 294.40	2458.90 ± 153.98	30
		Hatchling	2084.94 ± 111.60	1984.53 ± 370.87	1628.91 ± 90.27	64

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
MYL3	Contractile Apparatus	Adult	4230.15 ± 232.35	5398.13 ± 242.08	5328.38 ± 325.77	3
		Hatchling	6332.95 ± 434.35	6033.83 ± 710.50	5403.91 ± 77.64	4
MYL7	Contractile Apparatus	Adult	3958.10 ± 743.83	6167.71 ± 1596.50	5763.25 ± 1786.90	2
		Hatchling	4606.37 ± 724.98	5615.17 ± 447.92	3913.02 ± 640.91	6
NDUFA4	Metabolism	Adult	1506.71 ± 256.59	1962.01 ± 384.21	1681.58 ± 415.21	54
		Hatchling	982.17 ± 103.80	1042.56 ± 76.63	800.99 ± 103.52	115
OAZ1	Other	Adult	1298.51 ± 103.39	1338.23 ± 237.03	1123.07 ± 134.98	81
		Hatchling	702.88 ± 33.20	829.10 ± 54.43	814.83 ± 27.59	125
PPDPF	unknown	Adult	1496.65 ± 82.60	1331.54 ± 143.38	1577.49 ± 86.02	73
		Hatchling	1992.43 ± 74.75	2281.93 ± 293.25	2292.51 ± 223.41	53
RPL10	Translational Regulation	Adult	2528.44 ± 313.45	1882.42 ± 232.50	2405.55 ± 295.16	23
		Hatchling	2839.87 ± 141.26	3259.11 ± 235.56	2678.93 ± 312.49	19
RPL11	Translational Regulation	Adult	1410.72 ± 121.55	1244.19 ± 53.79	1587.66 ± 126.40	77
		Hatchling	1770.81 ± 87.02	1979.02 ± 120.58	1675.43 ± 221.77	68
RPL13	Translational Regulation	Adult	1975.41 ± 157.50	1714.06 ± 91.07	2152.75 ± 172.70	39
		Hatchling	2461.47 ± 45.20	2724.44 ± 176.57	2321.47 ± 202.12	36
RPL13A	Translational Regulation	Adult	1573.47 ± 146.05	1440.73 ± 54.98	1636.91 ± 109.92	68
		Hatchling	2256.78 ± 154.25	2622.36 ± 58.19	2344.10 ± 192.40	39
RPL14	Translational Regulation	Adult	1761.80 ± 134.40	1659.79 ± 95.74	1783.75 ± 59.41	52
		Hatchling	1836.46 ± 64.11	1933.08 ± 54.11	1843.62 ± 101.52	66
RPL15	Translational Regulation	Adult	1181.84 ± 95.37	1028.31 ± 33.87	1206.16 ± 73.79	88
		Hatchling	1887.59 ± 148.80	1992.82 ± 79.48	1697.62 ± 105.07	67
RPL17	Translational Regulation	Adult	2112.93 ± 148.33	2110.87 ± 94.88	2407.02 ± 207.59	26
		Hatchling	3423.09 ± 137.38	3342.71 ± 147.39	3312.66 ± 186.59	9
RPL18	Translational Regulation	Adult	1249.03 ± 114.40	937.26 ± 117.79	1157.49 ± 27.09	89
		Hatchling	1758.17 ± 133.26	1932.80 ± 154.69	1613.01 ± 185.78	72
RPL18A	Translational Regulation	Adult	1076.00 ± 73.37	956.63 ± 36.92	1106.22 ± 99.89	97
		Hatchling	1181.90 ± 31.61	1259.50 ± 35.13	1148.88 ± 61.04	102
RPL19	Translational Regulation	Adult	1367.46 ± 86.78	1236.87 ± 63.97	1562.54 ± 139.97	78
		Hatchling	1674.26 ± 29.18	1864.47 ± 42.35	1746.45 ± 66.97	73
RPL21	Translational Regulation	Adult	2669.64 ± 322.56	2549.75 ± 76.70	2934.60 ± 213.70	10
		Hatchling	2952.51 ± 102.28	2953.86 ± 50.84	2737.22 ± 86.47	21
RPL23	Translational Regulation	Adult	1748.69 ± 149.29	1462.01 ± 59.10	1794.16 ± 228.38	59
		Hatchling	2185.80 ± 188.38	2418.13 ± 99.81	2164.95 ± 251.32	46

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
RPL23A	Translational	Adult	1906.45 ± 161.33	1727.35 ± 74.92	1932.56 ± 147.59	45
	Regulation	Hatchling	2417.85 ± 35.61	2614.12 ± 70.66	2450.62 ± 69.81	37
RPL24	Translational	Adult	2041.80 ± 384.18	1751.96 ± 228.26	2068.68 ± 391.15	37
	Regulation	Hatchling	3177.04 ± 460.50	3452.27 ± 643.75	3411.78 ± 595.01	10
RPL26L1	Translational	Adult	2532.66 ± 188.72	2284.77 ± 19.33	2558.66 ± 248.74	15
	Regulation	Hatchling	3187.37 ± 107.19	3502.09 ± 110.31	3056.66 ± 175.11	13
RPL27	Translational	Adult	2413.40 ± 249.21	2002.44 ± 173.05	2219.12 ± 217.93	25
	Regulation	Hatchling	2365.77 ± 112.78	2472.68 ± 91.39	2227.18 ± 273.37	43
RPL30	Translational	Adult	1215.45 ± 75.79	983.43 ± 4.16	1224.30 ± 125.28	86
	Regulation	Hatchling	1294.44 ± 26.91	1413.13 ± 67.07	1316.67 ± 84.86	94
RPL31	Translational	Adult	2150.60 ± 131.63	1896.47 ± 85.46	2077.67 ± 91.98	31
	Regulation	Hatchling	2305.93 ± 83.36	2732.01 ± 112.65	2497.90 ± 126.71	34
RPL32	Translational	Adult	2574.11 ± 169.59	2464.81 ± 67.53	2758.63 ± 206.46	13
	Regulation	Hatchling	3282.68 ± 335.94	3250.25 ± 336.73	3432.03 ± 241.89	11
RPL34	Translational	Adult	1752.82 ± 107.24	1488.13 ± 50.48	1887.59 ± 154.49	56
	Regulation	Hatchling	2123.82 ± 82.87	2396.81 ± 111.54	2086.93 ± 144.83	51
RPL35	Translational	Adult	3105.97 ± 164.76	2518.81 ± 178.80	2858.75 ± 338.07	8
	Regulation	Hatchling	2759.23 ± 119.94	3158.28 ± 199.02	2931.05 ± 264.78	18
RPL35A	Translational	Adult	2334.55 ± 176.70	2034.08 ± 68.65	2344.33 ± 123.63	24
	Regulation	Hatchling	2745.69 ± 58.94	2884.68 ± 61.79	2685.85 ± 139.64	27
RPL36	Translational	Adult	1904.01 ± 154.78	1548.28 ± 106.54	1991.26 ± 170.72	47
	Regulation	Hatchling	2294.54 ± 93.32	2663.85 ± 133.74	2232.70 ± 165.58	40
RPL37A	Translational	Adult	2017.55 ± 202.50	1722.62 ± 312.60	2104.38 ± 236.62	38
	Regulation	Hatchling	2351.92 ± 120.19	2703.44 ± 257.40	2697.08 ± 445.92	31
RPL38	Translational	Adult	2715.96 ± 332.92	2500.44 ± 148.41	2949.99 ± 249.38	9
	Regulation	Hatchling	3484.05 ± 146.86	3328.97 ± 189.37	2990.37 ± 223.61	12
RPL39	Translational	Adult	1052.16 ± 63.43	975.36 ± 36.77	941.73 ± 55.77	100
	Regulation	Hatchling	1070.77 ± 85.25	1229.00 ± 50.27	1123.03 ± 22.50	106
RPL4	Translational	Adult	1450.34 ± 85.33	1344.98 ± 47.02	1547.10 ± 146.15	74
	Regulation	Hatchling	2024.48 ± 37.67	2272.26 ± 94.47	2037.76 ± 126.99	57
RPL5	Translational	Adult	1945.50 ± 135.36	1721.98 ± 119.46	1975.21 ± 173.82	44
	Regulation	Hatchling	2193.05 ± 84.78	2323.59 ± 77.41	2261.00 ± 88.19	45
RPL6	Translational	Adult	1516.40 ± 126.28	1350.55 ± 131.01	1645.84 ± 118.85	71
	Regulation	Hatchling	1848.07 ± 89.49	2039.18 ± 49.62	1905.42 ± 85.34	62

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
RPL7	Translational Regulation	Adult	1560.18 ± 79.97	1419.45 ± 73.70	1709.56 ± 160.67	67
		Hatchling	1931.31 ± 85.33	1991.76 ± 88.57	1974.01 ± 143.44	61
RPL7A	Translational Regulation	Adult	1776.14 ± 83.25	1597.70 ± 96.65	1779.14 ± 59.32	53
		Hatchling	2160.68 ± 25.16	2215.35 ± 25.75	2201.03 ± 137.03	52
RPL8	Translational Regulation	Adult	1163.88 ± 74.90	1096.62 ± 42.19	1280.81 ± 73.44	83
		Hatchling	1436.49 ± 20.52	1535.90 ± 59.64	1486.08 ± 134.30	83
RPL9	Translational Regulation	Adult	1693.72 ± 114.87	1603.81 ± 71.62	1738.38 ± 24.88	58
		Hatchling	2075.04 ± 121.85	2189.81 ± 130.87	1999.18 ± 127.84	58
RPLP0	Translational Regulation	Adult	1441.17 ± 112.92	1392.00 ± 72.49	1600.06 ± 79.29	72
		Hatchling	2326.46 ± 113.54	2589.28 ± 88.18	2375.35 ± 123.89	38
RPLP1	Translational Regulation	Adult	1497.65 ± 67.78	1509.23 ± 79.02	1683.66 ± 131.02	66
		Hatchling	1876.59 ± 116.11	1992.55 ± 102.51	1819.72 ± 232.01	65
RPS10	Translational Regulation	Adult	1842.98 ± 148.12	1624.31 ± 66.55	1965.59 ± 205.63	48
		Hatchling	2341.05 ± 55.89	2589.95 ± 85.20	2235.76 ± 176.56	41
RPS11	Translational Regulation	Adult	1751.87 ± 193.33	1370.57 ± 206.56	2014.98 ± 148.16	55
		Hatchling	2319.05 ± 151.23	2593.95 ± 83.46	2626.37 ± 190.24	33
RPS12	Translational Regulation	Adult	2427.25 ± 179.15	2104.83 ± 140.05	2415.75 ± 179.02	19
		Hatchling	2916.43 ± 51.89	3289.23 ± 133.83	2926.28 ± 96.15	15
RPS13	Translational Regulation	Adult	2142.19 ± 187.27	1892.64 ± 89.73	2247.03 ± 189.46	28
		Hatchling	2743.07 ± 26.80	3022.74 ± 102.85	2662.71 ± 84.49	24
RPS14	Translational Regulation	Adult	2231.13 ± 244.26	1862.05 ± 54.84	2194.15 ± 248.18	27
		Hatchling	2542.29 ± 59.03	2548.85 ± 133.37	2439.13 ± 191.74	35
RPS15A	Translational Regulation	Adult	2407.60 ± 163.50	2040.89 ± 126.44	2438.80 ± 215.24	21
		Hatchling	2630.65 ± 140.01	2690.86 ± 76.10	2690.32 ± 240.35	30
RPS16	Translational Regulation	Adult	2397.84 ± 108.64	2101.65 ± 101.84	2396.84 ± 243.88	20
		Hatchling	2761.92 ± 84.14	2845.06 ± 285.01	2767.22 ± 313.78	26
RPS17	Translational Regulation	Adult	2692.24 ± 180.74	2356.02 ± 133.95	2739.27 ± 172.29	14
		Hatchling	2786.03 ± 88.02	3174.74 ± 169.44	2895.90 ± 228.68	17
RPS18	Translational Regulation	Adult	1910.89 ± 263.26	1351.73 ± 90.65	1966.56 ± 315.04	51
		Hatchling	2064.16 ± 106.45	2258.05 ± 261.30	2043.85 ± 97.66	56
RPS19	Translational Regulation	Adult	2174.99 ± 237.45	1725.67 ± 99.46	2106.07 ± 197.04	36
		Hatchling	2549.26 ± 76.38	2753.54 ± 170.01	2761.06 ± 123.15	29
RPS2	Translational Regulation	Adult	2156.70 ± 47.51	1774.54 ± 114.83	2096.12 ± 164.28	34
		Hatchling	2236.04 ± 88.82	2536.89 ± 196.02	2160.16 ± 232.10	44

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
RPS20	Translational Regulation	Adult	2010.08 ± 146.74	1509.68 ± 93.34	1931.26 ± 217.30	46
		Hatchling	2831.86 ± 61.31	3359.29 ± 313.47	3061.99 ± 221.25	14
RPS21	Translational Regulation	Adult	1625.64 ± 72.32	1441.78 ± 95.61	1707.20 ± 181.31	63
		Hatchling	1933.03 ± 101.94	1635.21 ± 85.17	1824.07 ± 16.37	69
RPS24	Translational Regulation	Adult	2500.33 ± 179.32	2281.73 ± 147.67	2455.94 ± 190.96	17
		Hatchling	2919.48 ± 103.47	3179.90 ± 134.62	2847.88 ± 183.02	16
RPS25	Translational Regulation	Adult	2033.46 ± 120.27	1843.09 ± 85.80	2151.90 ± 183.52	33
		Hatchling	2771.42 ± 193.24	2928.82 ± 89.33	2962.75 ± 83.56	20
RPS26	Translational Regulation	Adult	1143.74 ± 129.28	985.63 ± 114.15	1325.97 ± 140.87	84
		Hatchling	1811.05 ± 224.86	1926.47 ± 158.70	1572.88 ± 233.74	71
RPS27	Translational Regulation	Adult	2641.24 ± 211.41	2402.76 ± 136.16	2822.45 ± 182.18	11
		Hatchling	3315.15 ± 71.42	3508.33 ± 158.43	3431.71 ± 124.07	8
RPS27A	Translational Regulation	Adult	1609.58 ± 94.38	1607.48 ± 55.19	1838.17 ± 74.13	57
		Hatchling	2070.24 ± 81.87	2340.75 ± 57.05	2078.52 ± 92.79	55
RPS29	Translational Regulation	Adult	4150.14 ± 441.78	3447.31 ± 339.43	4228.36 ± 428.06	6
		Hatchling	4966.86 ± 462.33	5287.85 ± 325.60	4668.06 ± 362.54	5
RPS3	Translational Regulation	Adult	1582.81 ± 188.92	1382.63 ± 67.16	1623.36 ± 93.55	70
		Hatchling	1697.11 ± 133.95	1753.43 ± 39.53	1644.66 ± 108.75	74
RPS3A	Translational Regulation	Adult	2332.33 ± 177.97	2234.64 ± 95.54	2456.61 ± 67.03	18
		Hatchling	2855.31 ± 99.03	2838.84 ± 113.46	2909.10 ± 159.20	22
RPS6	Translational Regulation	Adult	1928.34 ± 157.28	1920.12 ± 82.85	2193.77 ± 155.57	32
		Hatchling	2307.10 ± 69.21	2429.97 ± 45.27	2396.89 ± 197.83	42
RPS7	Translational Regulation	Adult	1439.97 ± 62.29	1322.05 ± 45.58	1505.47 ± 94.80	76
		Hatchling	1625.08 ± 16.52	1680.73 ± 41.95	1557.13 ± 123.03	76
RPS8	Translational Regulation	Adult	1822.24 ± 129.89	1590.65 ± 70.81	1894.52 ± 205.84	50
		Hatchling	2224.95 ± 107.51	2212.75 ± 213.68	2239.23 ± 93.03	48
RPSA	Translational Regulation	Adult	1172.34 ± 27.95	959.95 ± 120.06	1120.11 ± 79.71	93
		Hatchling	1231.53 ± 62.23	1321.47 ± 61.32	1094.03 ± 102.35	100
S100A6	Ca2+ Binding	Adult	1096.88 ± 125.39	1037.82 ± 142.21	1138.06 ± 120.08	92
		Hatchling	1255.85 ± 159.13	1457.96 ± 101.80	1364.61 ± 156.43	92
SLC25A4	Metabolism	Adult	2168.25 ± 314.86	2434.84 ± 357.27	2712.23 ± 172.86	16
		Hatchling	2180.90 ± 226.86	2026.99 ± 97.62	1998.28 ± 120.69	59
TNNI3	Contractile Apparatus	Adult	770.37 ± 67.47	871.39 ± 93.85	993.79 ± 103.94	115
		Hatchling	1565.38 ± 99.12	1704.56 ± 128.14	1376.55 ± 149.79	80

Gene	Classification	Development Stage	Control Mean ± SEM	Anoxia Mean ± SEM	Recovery Mean ± SEM	Rank
TNNT2	Contractile Apparatus	Adult	904.41 ± 37.68	1051.46 ± 148.74	1253.98 ± 115.51	94
		Hatchling	1396.05 ± 129.89	1430.10 ± 292.17	1354.04 ± 154.80	89
TPM1	Contractile Apparatus	Adult	795.33 ± 87.13	1007.31 ± 140.75	972.89 ± 95.78	112
		Hatchling	1536.50 ± 173.20	1500.20 ± 248.08	1387.91 ± 159.46	85
TPM4	Contractile Apparatus	Adult	1308.45 ± 171.67	1764.11 ± 241.90	1781.58 ± 192.19	61
		Hatchling	2373.39 ± 244.26	2389.36 ± 514.18	1758.88 ± 214.28	54
TPT1	Development	Adult	3149.86 ± 225.27	2931.09 ± 187.29	3120.01 ± 122.26	7
		Hatchling	3828.00 ± 145.74	4195.12 ± 175.64	4164.83 ± 160.06	7
UBA52	Translational Regulation	Adult	1781.76 ± 145.60	1234.39 ± 94.74	1729.84 ± 182.98	65
		Hatchling	2205.94 ± 328.54	2456.68 ± 468.26	1993.21 ± 207.59	49
UBB	Protein Turnover	Adult	1657.39 ± 84.06	1309.10 ± 146.52	1677.50 ± 236.32	69
		Hatchling	824.76 ± 40.78	736.77 ± 82.66	731.03 ± 73.04	130
UBC	Protein Turnover	Adult	1084.75 ± 130.90	1077.12 ± 80.94	1170.42 ± 88.01	90
		Hatchling	1104.41 ± 30.70	1355.10 ± 137.68	1111.30 ± 87.82	103

Table S3: *Ranks of the Highest Expressed Gene-coding Nuclear Transcripts in the Heart*

Gene	Human Rank	Adult Turtle Rank	Hatchling Turtle Rank
MYL2	1	10992	778
DES	2	75	75
NPPA-like - LOC101945004	3	5	2
TNNI3	4	115	80
MYH7	5	11026	9507
ACTC1	6	564	337
ACTA1	7	85	63
TCAP	8	143	762
MYL3	9	3	4
TNNC1	10	113	122
CKM	11	231	296
MB	12	60	121
TNNT2	13	94	89
ANKRD1	14	5676	4887
FABP3 (FABP heart-like)	15	2243	2661
CRYAB	16	329	1152
GAPDH	17	95	107
MYH6	18	10012	590
MYL7	19	2	6
HSPB7	20	22	32
SLC25A4	21	16	59
MYL9	22	118	116
TPM1	23	112	85
ATP5B	24	139	187
MYBPC3	25	185	243
MYL12A - LOC101936202	26	223	227
TPT1	27	7	7
NPPB- LOC101944735	28	330	5250
COX6A2	29	-	-
FTL - LOC101942276	30	35	77
FTL - LOC101939003	30	64	60
PTGDS (HPGDS)	31	-	-
HSPB1	32	134	136
CSRP3	33	126	202
PLN	34	108	148
RPLP1	35	66	65
LDHB	36	79	96
RPS11	37	55	33
FTH1	38	12	23
ATP5A1	39	162	203
HSPB6	40	122	191
NDUFA1	41	348	436
RPL19	42	78	73

Gene	Human Rank	Adult Turtle Rank	Hatchling Turtle Rank
EEF2	43	91	79
EEF1A2	44	364	278
ALDOA	45	138	165
ITGB1BP3 (NMRK2)	46	853	1161
RPS18	47	51	56
GPX3	48	309	277
RPL26 (RPL26L1)	49	15	13
ACTB	50	99	99
RPL27	51	25	43
ATP5E	52	174	181
RPS12	53	19	15
ACTN2 - LOC103306205	54	96	90
ACADVL	55	411	235
CKMT2	56	279	473
NDUFS5	57	396	512
HSP90AB1	58	133	128
UBB	59	69	130
RPLP2	60	123	111
MYL4	61	9924	177
SEPW1	62	-	-
RPL8	63	83	83
PSAP	64	-	-
RPS16	65	20	26
COX6B1	66	-	-
RPS27A	67	57	55
COX8A	68	-	-
ATP5H	69	200	242
BSG	70	178	157
SLC25A3	71	182	220
COX7A1	72	-	-
RPL10	73	23	19
MYOZ2	74	171	231
OAZ1	75	81	125
MDH1	76	205	265
FLNC	77	729	574
AC008038.1 (SRSF2)	78	678	702
CASQ2	79	164	185
TGM2	80	811	1231
ATP5J	81	703	872

In human, ranks were determined by cumulative expression values for 81 nuclear gene-coding transcripts from the human heart (Melé et al 2015). In the hatchling and adult turtle, ranks were determined by cumulative FPKM values across treatment for 11,072 genes. Genes highlighted in green are found also highly expressed (top 100) in adult and hatchling turtles (N=33)

Table S4: *Potential Protective Genes During Anoxia and Recovery*

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
ACTA2	Contractility	Adult	**29.46 ± 8.67**	**82.48 ± 58.63**	**62.35 ± 47.45**
		Hatchling	5.64 ± 1.19	9.89 ± 3.69	11.08 ± 2.61
CLCA1-like	Membrane Transport: Chloride	Adult	**2.93 ± 0.93**	**12.20 ± 6.14**	**19.84 ± 14.19**
		Hatchling	1.33 ± 0.71	1.22 ± 0.53	0.36 ± 0.24
ETNPPL	Phosphoethanolamine Digestion	Adult	**7.99 ± 1.71**	**16.44 ± 4.35**	**17.29 ± 4.70**
		Hatchling	3.57 ± 0.79	2.57 ± 1.32	6.53 ± 1.31
PRSS27-like	Post Translational Modification: Serine Protease	Adult	**3.28 ± 2.23**	**36.88 ± 36.28**	**31.23 ± 29.34**
		Hatchling	0.38 ± 0.15	1.28 ± 0.63	0.81 ± 0.50
PRSS27-like	Post Translational Modification: Serine Protease	Adult	0.88 ± 0.39	**5.54 ± 4.66**	**5.41 ± 4.57**
		Hatchling	0.68 ± 0.16	1.35 ± 0.34	1.26 ± 0.51
S100B	Calcium Regulation	Adult	6.45 ± 2.72	**32.57 ± 20.73**	**33.45 ± 20.48**
		Hatchling	7.79 ± 4.11	16.95 ± 8.05	9.79 ± 4.98
MLPH	Binding: Myosin	Adult	2.03 ± 0.58	**4.32 ± 1.05**	4.25 ± 1.69
		Hatchling	1.28 ± 0.32	1.91 ± 0.30	2.52 ± 0.20
FGL1-like	Development: Mitogenic Activity	Adult	5.14 ± 1.49	**13.58 ± 5.16**	**11.05 ± 1.91**
		Hatchling	5.10 ± 0.86	3.03 ± 0.61	3.37 ± 0.37
PPDPFL	Cell Differentiaton	Adult	**3.85 ± 1.21**	**9.68 ± 2.20**	**3.89 ± 0.45**
		Hatchling	1.23 ± 0.29	1.73 ± 0.30	1.88 ± 0.22
BTC	Growth Factor	Adult	1.46 ± 0.08	**6.96 ± 3.80**	**5.36 ± 2.09**
		Hatchling	**3.23 ± 2.47**	1.96 ± 1.36	2.63 ± 1.17
TNC	Extracellular Matrix	Adult	1.73 ± 0.64	**4.25 ± 2.90**	**3.47 ± 2.75**
		Hatchling	1.80 ± 0.47	0.89 ± 0.27	0.71 ± 0.10
HA1F-like	Immune Response	Adult	4.33 ± 2.73	**71.86 ± 62.86**	**103.23 ± 78.15**
		Hatchling	0.18 ± 0.12	0.20 ± 0.16	0.38 ± 0.32
FUT2-like	Immune Response: glycosylation	Adult	3.69 ± 1.48	**90.46 ± 88.42**	**89.55 ± 83.44**
		Hatchling	3.60 ± 1.03	2.74 ± 0.33	1.87 ± 0.52
FUT2-like	Immune Response: glycosylation	Adult	1.99 ± 0.54	**165.20 ± 163.72**	**159.80 ± 154.12**
		Hatchling	2.81 ± 0.51	2.92 ± 1.09	1.47 ± 0.44
LYZ-like	Immune Response: Lysozome	Adult	11.55 ± 5.37	**34.18 ± 27.26**	**126.04 ± 78.28**
		Hatchling	15.37 ± 14.37	1.36 ± 1.01	7.24 ± 6.31
MR1-like	Immune Response: MAIT lymphocyte Development	Adult	0.00 ± 0.00	**12.84 ± 12.76**	**9.07 ± 9.03**
		Hatchling	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
CLCA1-like	Membrane Transport: Chloride Conductance	Adult	2.93 ± 0.93	**12.20 ± 6.14**	**19.84 ± 14.19**
		Hatchling	1.33 ± 0.71	1.22 ± 0.53	0.36 ± 0.24
LOC101934031	Uncharacterized	Adult	1.05 ± 0.42	**3.52 ± 1.22**	**4.55 ± 1.19**
		Hatchling	1.66 ± 0.81	1.38 ± 0.95	1.53 ± 0.84
FGL1	Development: Mitogenic Acitiviity	Adult	5.14 ± 1.49	**13.58 ± 5.16**	**11.05 ± 1.91**
		Hatchling	5.10 ± 0.86	3.03 ± 0.61	3.37 ± 0.37
TRIM36	Cell Cycle	Adult	**2.29 ± 0.58**	**5.07 ± 2.09**	2.01 ± 0.34
		Hatchling	1.11 ± 0.15	1.51 ± 0.28	1.54 ± 0.56
ATL1	GTPase Activity	Adult	6.94 ± 1.84	**18.84 ± 10.87**	6.86 ± 1.40
		Hatchling	4.71 ± 1.38	4.93 ± 1.43	4.55 ± 1.61
CYP2D14-like	Catabolism: Monooxygenase	Adult	2.45 ± 0.22	**5.72 ± 1.82**	2.51 ± 1.06
		Hatchling	2.20 ± 0.67	2.88 ± 1.35	2.30 ± 0.75
CSRP2	Development: Smooth Muscle Proliferation	Adult	19.52 ± 2.13	**45.91 ± 14.08**	32.60 ± 10.42
		Hatchling	20.60 ± 2.23	19.50 ± 3.82	18.87 ± 2.73
LZTS3	Development: Mitogenic Acitiviity	Adult	2.10 ± 1.01	**4.60 ± 1.01**	1.27 ± 0.15
		Hatchling	2.15 ± 0.78	2.07 ± 0.84	1.49 ± 0.33
FCN2-like	Immune Response: Complement Cascade	Adult	56.73 ± 33.62	**270.38 ± 78.45**	43.89 ± 23.30
		Hatchling	47.11 ± 38.10	23.23 ± 17.15	60.62 ± 51.89
PATE3-like	Uncharacterized	Adult	1.92 ± 0.93	**9.82 ± 7.56**	0.92 ± 0.71
		Hatchling	2.24 ± 1.61	0.94 ± 0.63	1.22 ± 1.06
SYT17	Neuronal Development: Dendrite Maturation	Adult	2.21 ± 0.40	**5.38 ± 1.62**	4.29 ± 1.65
		Hatchling	2.64 ± 0.57	2.29 ± 0.32	3.51 ± 0.31
DLK1	Signaling: Delta-Knotch Pathway	Adult	**10.00 ± 3.47**	**24.33 ± 11.19**	**14.11 ± 7.30**
		Hatchling	1.58 ± 0.84	1.07 ± 0.39	1.06 ± 0.29
TUBA8-like	Cell Structure	Adult	55.54 ± 33.86	**150.36 ± 131.72**	**58.08 ± 36.14**
		Hatchling	76.65 ± 62.26	54.38 ± 38.59	12.44 ± 3.19
TMEM108	Neuronal Development: Dendrite Maturation	Adult	3.16 ± 1.07	**6.71 ± 3.16**	**5.78 ± 1.92**
		Hatchling	3.43 ± 0.54	2.86 ± 0.77	1.62 ± 0.29
LOC101953705	Uncharacterized	Adult	**9.21 ± 8.62**	**43.85 ± 24.31**	**16.15 ± 8.78**
		Hatchling	2.56 ± 2.22	1.89 ± 1.69	0.50 ± 0.45
ITGAD-like	Signaling: ERK	Adult	**1.27 ± 0.22**	**8.61 ± 6.19**	**2.36 ± 0.60**
		Hatchling	0.30 ± 0.07	0.53 ± 0.11	0.88 ± 0.62
RAD51	DNA Repair	Adult	2.48 ± 0.45	**10.97 ± 8.35**	2.61 ± 0.36
		Hatchling	4.79 ± 0.33	4.73 ± 0.53	**5.24 ± 0.47**

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
TES	Cell Structure: Adhesion	Adult	**5.15 ± 1.08**	**10.52 ± 6.20**	**7.59 ± 3.66**
		Hatchling	2.30 ± 0.47	2.33 ± 0.16	2.77 ± 0.25
LOC101944353	Immune Response: Chemokine Activity	Adult	**14.68 ± 5.18**	**33.72 ± 17.54**	**18.40 ± 7.04**
		Hatchling	0.66 ± 0.11	0.77 ± 0.30	0.93 ± 0.22
CCL3-like	Signaling: Chemokine	Adult	**2.15 ± 0.90**	50.54 ± 46.34	**37.04 ± 32.55**
		Hatchling	0.57 ± 0.37	31.93 ± 31.65	0.67 ± 0.32
S100A1	Calcium Regulation	Adult	53.01 ± 11.87	**101.81 ± 31.85**	**128.89 ± 42.08**
		Hatchling	40.34 ± 10.32	43.32 ± 10.48	34.71 ± 5.71
TRPV3	Membrane Transport: Ion Conductance	Adult	2.03 ± 0.25	3.83 ± 1.58	**4.28 ± 1.52**
		Hatchling	1.91 ± 0.33	1.84 ± 0.64	1.72 ± 0.76
DDN1-like	Immune Response: Antibacterial	Adult	0.98 ± 0.48	18.33 ± 17.32	21.72 ± 15.31
		Hatchling	0.25 ± 0.13	0.08 ± 0.05	2.52 ± 0.98
MPEG1-like	Cell Cycle	Adult	2.89 ± 0.75	7.44 ± 2.63	9.59 ± 3.24
		Hatchling	**10.15 ± 5.66**	9.23 ± 8.79	11.91 ± 11.26
GBP1-like	Immune Response	Adult	0.00 ± 0.00	4.94 ± 4.63	4.82 ± 4.78
		Hatchling	1.65 ± 1.62	0.69 ± 0.69	2.16 ± 2.16
HA1F-like	Immune Response	Adult	2.60 ± 2.36	12.84 ± 5.43	11.38 ± 4.61
		Hatchling	7.63 ± 3.22	8.88 ± 2.97	10.17 ± 3.32
NMRK2	Metabolism: NAD Metabolism	Adult	22.72 ± 3.32	103.92 ± 14.84	99.52 ± 34.44
		Hatchling	43.43 ± 6.43	63.41 ± 9.81	52.99 ± 7.38
G0S2	Apoptosis	Adult	22.62 ± 8.58	84.64 ± 5.64	70.20 ± 9.92
		Hatchling	**67.50 ± 11.80**	60.51 ± 12.82	76.69 ± 16.95
WDR66	Binding: Calcium	Adult	0.92 ± 0.28	3.23 ± 0.95	5.09 ± 3.05
		Hatchling	**1.99 ± 0.83**	5.00 ± 3.03	3.66 ± 1.58
NSUN7	Binding: RNA	Adult	0.97 ± 0.30	2.62 ± 0.51	1.95 ± 0.56
		Hatchling	**2.91 ± 0.48**	2.68 ± 0.11	3.25 ± 0.21
ACTC1	Contractility	Adult	55.32 ± 14.42	150.33 ± 48.42	144.37 ± 48.78
		Hatchling	**169.87 ± 51.03**	279.56 ± 115.40	94.24 ± 9.84
ACTG2	Contractility	Adult	30.08 ± 5.64	89.64 ± 56.32	76.01 ± 45.60
		Hatchling	**116.45 ± 16.39**	135.03 ± 29.95	134.18 ± 42.26
BTN1A1-like	Immune Response	Adult	1.52 ± 0.51	2.79 ± 1.55	3.56 ± 1.39
		Hatchling	2.82 ± 1.01	1.76 ± 0.87	4.37 ± 1.48
CD55-like	Immune Response: Complement Cascade	Adult	10.38 ± 2.97	43.43 ± 26.35	32.34 ± 25.21
		Hatchling	**22.78 ± 9.57**	23.81 ± 9.16	18.58 ± 6.21

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
NMRK2	NAD Biosynthesis	Adult	22.72 ± 3.32	103.92 ± 14.84	99.52 ± 34.44
		Hatchling	43.43 ± 6.43	63.41 ± 9.81	52.99 ± 7.38
LOC101944303	Uncharacterized	Adult	2.61 ± 0.88	6.35 ± 0.95	6.37 ± 1.81
		Hatchling	3.46 ± 1.05	3.80 ± 0.53	4.67 ± 1.10
NR1D1-like	Transcription Factor: Circadian Clock	Adult	4.08 ± 1.26	10.68 ± 2.63	13.01 ± 4.46
		Hatchling	**9.33 ± 0.98**	12.95 ± 0.80	12.53 ± 1.88
RNF182-like	Immune Response	Adult	2.28 ± 0.35	5.20 ± 1.24	4.69 ± 1.62
		Hatchling	**5.77 ± 2.55**	2.92 ± 1.19	4.68 ± 1.45
ADAM23	Cell-Cell Interactions	Adult	4.33 ± 2.02	9.13 ± 2.61	7.55 ± 1.35
		Hatchling	5.44 ± 1.31	6.53 ± 1.30	7.10 ± 1.49
COL12A1	Extracellular Matrix	Adult	1.18 ± 0.28	2.76 ± 0.74	1.45 ± 0.34
		Hatchling	1.98 ± 0.65	2.66 ± 0.86	2.60 ± 0.56
CPPED1	Cell Cycle: Apoptosis	Adult	2.26 ± 0.20	4.74 ± 0.96	2.43 ± 0.25
		Hatchling	2.05 ± 0.62	2.77 ± 0.79	2.43 ± 0.37
CYP2D15-like	Binding: Heme	Adult	9.21 ± 2.64	18.56 ± 8.17	11.57 ± 3.46
		Hatchling	9.34 ± 1.96	14.77 ± 8.03	10.50 ± 2.07
CYP8B1	Catabolism: Monooxygenase	Adult	12.54 ± 3.63	42.08 ± 13.45	23.69 ± 9.85
		Hatchling	**28.82 ± 9.72**	27.23 ± 7.35	19.47 ± 1.80
DKK3	Development: WNT Signaling Antagonization	Adult	564.82 ± 112.50	1258.09 ± 487.31	1121.98 ± 430.53
		Hatchling	856.53 ± 119.53	780.98 ± 84.94	643.68 ± 56.63
ENDOD1-like	Dnase/Rnase Activity	Adult	2.03 ± 1.42	4.42 ± 2.34	2.19 ± 1.85
		Hatchling	**4.85 ± 2.68**	2.38 ± 2.07	3.43 ± 2.06
LOC101938243	Uncharacterized	Adult	2.71 ± 0.65	10.65 ± 7.29	4.98 ± 1.76
		Hatchling	**6.62 ± 0.53**	12.56 ± 6.82	7.36 ± 0.74
LOC101941157	Uncharacterized	Adult	1.86 ± 0.31	4.78 ± 1.93	3.50 ± 0.47
		Hatchling	**6.70 ± 1.87**	4.77 ± 2.29	4.34 ± 0.68
NT5C1A	Metabolism: Adenosine	Adult	19.12 ± 3.91	38.66 ± 4.14	28.69 ± 4.29
		Hatchling	14.41 ± 1.85	14.83 ± 1.84	14.54 ± 2.00
MYLK	Contractility	Adult	5.68 ± 1.08	12.57 ± 2.53	10.12 ± 2.18
		Hatchling	4.31 ± 0.65	7.02 ± 2.27	6.76 ± 0.89
PCSK9	Lipoprotien Homeostasis	Adult	1.24 ± 0.27	2.69 ± 0.74	2.42 ± 0.54
		Hatchling	**2.93 ± 0.62**	1.96 ± 0.57	1.98 ± 0.29
SLC4A5	Membrane Transport: Acid/Base Balance	Adult	1.53 ± 0.27	3.13 ± 0.69	2.37 ± 0.37
		Hatchling	2.89 ± 0.90	1.70 ± 0.40	3.80 ± 0.66

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
SNCB	Apoptosis: Negative Regulation	Adult	8.57 ± 5.00	20.88 ± 7.79	13.52 ± 2.57
		Hatchling	**22.63 ± 4.66**	24.73 ± 1.09	20.11 ± 4.86
STARD13	Signaling: GTPase	Adult	2.71 ± 0.65	10.65 ± 7.29	4.98 ± 1.76
		Hatchling	**6.62 ± 0.53**	12.56 ± 6.82	7.36 ± 0.74
TRIM10-like	Immune Response	Adult	2.37 ± 1.04	5.71 ± 2.98	3.12 ± 2.16
		Hatchling	1.31 ± 0.36	0.42 ± 0.24	1.34 ± 1.02
WDR41	Autophagy Regulation	Adult	2.37 ± 0.43	5.52 ± 0.30	4.73 ± 0.84
		Hatchling	**3.22 ± 0.45**	3.54 ± 0.31	2.64 ± 0.42
SPATS2L	Binding: RNA	Adult	3.24 ± 0.56	7.18 ± 1.68	4.03 ± 0.61
		Hatchling	6.38 ± 0.74	6.92 ± 0.79	**8.82 ± 1.78**
ACTN3	Contractility: Structural	Adult	21.85 ± 6.35	41.97 ± 6.91	54.07 ± 15.90
		Hatchling	**73.85 ± 5.80**	83.38 ± 17.99	64.79 ± 2.93
ADAM33	Cell-Cell Interactions	Adult	2.50 ± 0.48	4.01 ± 0.89	5.18 ± 0.97
		Hatchling	**8.96 ± 1.81**	7.25 ± 0.92	9.62 ± 0.42
BHLHE40	Transcription Factor: repressor	Adult	65.94 ± 14.02	108.12 ± 24.75	134.83 ± 11.78
		Hatchling	83.25 ± 10.30	98.22 ± 13.75	106.98 ± 16.97
LTK	Signaling: Protein Kinase	Adult	6.67 ± 3.21	13.33 ± 6.00	15.38 ± 3.44
		Hatchling	**14.56 ± 3.98**	15.38 ± 3.71	16.42 ± 7.06
LOC101936791	Uncharacterized	Adult	2.32 ± 0.65	1.90 ± 0.93	5.82 ± 1.72
		Hatchling	4.11 ± 1.32	**6.85 ± 3.50**	5.55 ± 2.01
LOC101952373	Uncharacterized	Adult	1.82 ± 0.37	2.72 ± 0.52	4.75 ± 0.87
		Hatchling	3.09 ± 0.23	3.18 ± 0.72	5.01 ± 0.32
HSP30C-like	Heat Shock Protein	Adult	66.37 ± 26.99	119.20 ± 39.02	261.66 ± 101.28
		Hatchling	48.65 ± 10.96	62.58 ± 26.24	107.11 ± 24.20
HSP30C-like	Heat Shock Protein	Adult	19.71 ± 9.41	29.68 ± 7.49	59.30 ± 17.53
		Hatchling	15.75 ± 4.43	22.76 ± 5.25	35.57 ± 8.34
TRIM69-like	Cell Cycle: Apoptosis	Adult	2.37 ± 0.86	3.34 ± 2.01	5.49 ± 2.19
		Hatchling	4.52 ± 1.30	3.10 ± 0.96	7.22 ± 2.29
RGMA	Neuronal Development: Axon Maturation	Adult	1.73 ± 0.24	2.67 ± 0.88	3.58 ± 1.67
		Hatchling	**5.65 ± 0.13**	**5.64 ± 0.97**	6.80 ± 1.13
MDP1	Phosphotase Activity	Adult	11.84 ± 5.93	12.69 ± 3.11	26.89 ± 9.27
		Hatchling	**29.55 ± 3.67**	**27.86 ± 3.39**	32.29 ± 6.72
UCP3	Respiratory electron transport	Adult	2.68 ± 1.55	15.01 ± 10.35	6.16 ± 4.26
		Hatchling	**8.85 ± 3.02**	**19.89 ± 8.98**	7.10 ± 2.32

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
CEACAM16	Cell Structure: Adhesion	Adult	0.61 ± 0.16	0.78 ± 0.32	1.57 ± 0.47
		Hatchling	**4.19 ± 1.52**	**7.23 ± 2.24**	**11.36 ± 4.44**
SERPINH1	Collagen Biosynthesis	Adult	38.33 ± 9.95	71.52 ± 6.72	77.87 ± 8.00
		Hatchling	**124.50 ± 21.21**	134.98 ± 12.72	**182.17 ± 10.89**
MYL4	Contractility	Adult	1.78 ± 1.12	6.35 ± 5.02	0.87 ± 0.07
		Hatchling	**420.04 ± 129.42**	**412.53 ± 55.19**	**502.40 ± 56.83**
S100A12	Immune Response: Calcium Regulation	Adult	137.86 ± 31.38	166.04 ± 32.51	353.25 ± 80.68
		Hatchling	**520.35 ± 159.93**	**876.76 ± 134.59**	**1473.19 ± 385.70**
LOC101935919	Immune Response: Chemokine Activity	Adult	1.67 ± 0.29	1.92 ± 0.63	4.05 ± 1.93
		Hatchling	**7.52 ± 1.97**	**9.39 ± 2.69**	**16.63 ± 2.04**
TLR5	Immune Response: Chemokine Activity	Adult	3.78 ± 0.87	3.27 ± 0.81	7.55 ± 2.16
		Hatchling	**16.84 ± 4.84**	**21.69 ± 4.70**	**41.38 ± 6.98**
GATM	Metabolism: Creatine Biosynthesis	Adult	0.64 ± 0.33	0.83 ± 0.14	1.81 ± 0.50
		Hatchling	**3.15 ± 0.77**	**5.03 ± 1.20**	**9.30 ± 2.02**

Significant increases from control FPKM (log2 fold-change ≥ 1) are highlighted in green while significant decreases from control FPKM (log2 fold-change ≤ -1) are highlighted in purple. Genes that are also significant different between development stages during anoxia or recovery (log2 fold-change ≥ 1 or ≤ -1) are highlighted in yellow.

Table S5: *Potential Consitutively-Adapted Genes During Anoxia and Recovery*

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
MYH11	Contractility	Adult	**15.41 ± 4.76**	**28.11 ± 15.59**	**19.49 ± 11.96**
		Hatchling	1.66 ± 0.36	4.59 ± 2.29	5.00 ± 1.28
CFB	Immune Response: Complement Cascade	Adult	7.45 ± 5.65	13.20 ± 4.52	8.91 ± 4.09
		Hatchling	4.70 ± 1.61	10.11 ± 3.89	10.25 ± 2.40
Histone H1	Nucleosome	Adult	**9.64 ± 1.67**	15.20 ± 2.55	18.40 ± 6.71
		Hatchling	4.06 ± 0.93	13.04 ± 3.39	13.36 ± 1.98
HIST1H1A-like	Nucleosome	Adult	**4.33 ± 0.97**	6.72 ± 1.48	5.60 ± 1.61
		Hatchling	2.15 ± 0.32	7.10 ± 1.99	6.51 ± 0.53
IL1RL1	Signaling: ERK	Adult	**4.64 ± 2.06**	**6.89 ± 1.75**	**4.16 ± 1.21**
		Hatchling	1.10 ± 0.31	2.85 ± 1.79	2.01 ± 0.54
CYP2D15-like	Binding: Heme	Adult	**15.44 ± 2.09**	15.84 ± 1.32	13.08 ± 3.06
		Hatchling	6.23 ± 0.47	15.23 ± 3.77	8.31 ± 2.74
Histone H2B 8	Nucleosome	Adult	**12.35 ± 3.43**	12.36 ± 2.60	11.07 ± 4.01
		Hatchling	5.04 ± 0.64	13.29 ± 2.92	9.80 ± 1.54
LCP1	Binding: Actin	Adult	**6.38 ± 1.63**	**8.92 ± 2.17**	6.75 ± 0.64
		Hatchling	2.42 ± 0.33	3.25 ± 0.41	5.04 ± 0.67
LY6E-like	Signaling: nAChR modulation	Adult	**72.06 ± 2.18**	**112.04 ± 35.88**	**82.82 ± 47.13**
		Hatchling	7.78 ± 1.44	13.44 ± 4.41	21.77 ± 5.45
FOSB	Transcription Factor: Cell Differentiation	Adult	**6.50 ± 3.52**	**9.20 ± 4.54**	**7.99 ± 1.85**
		Hatchling	1.15 ± 0.21	0.84 ± 0.23	3.00 ± 0.68
PSAP-like	Signaling	Adult	**11.97 ± 1.54**	**19.97 ± 6.14**	**13.60 ± 4.91**
		Hatchling	1.71 ± 0.19	2.49 ± 0.54	6.73 ± 4.68
SLC16A6	Membrane Transport: Monocarboxylate	Adult	12.49 ± 2.40	**22.43 ± 9.10**	16.50 ± 2.82
		Hatchling	9.66 ± 1.46	11.62 ± 1.90	24.94 ± 2.10
SIGLEC12	Signaling: Cell Surface Receptor	Adult	**6.50 ± 2.09**	3.73 ± 1.15	4.26 ± 1.86
		Hatchling	2.66 ± 0.55	2.08 ± 0.81	5.98 ± 1.77
NMRK2-like	NAD Biosynthesis	Adult	29.39 ± 5.83	49.59 ± 19.86	30.69 ± 9.47
		Hatchling	25.09 ± 6.71	33.94 ± 6.98	50.25 ± 12.91
TAF1C-like	Transcriptional Regulation	Adult	2.62 ± 0.81	2.41 ± 0.35	2.37 ± 0.59
		Hatchling	2.02 ± 0.39	3.31 ± 0.38	4.48 ± 1.02
LOC101951613	uncharacterized	Adult	1.84 ± 0.33	2.63 ± 0.63	2.87 ± 0.35
		Hatchling	2.27 ± 0.63	3.10 ± 0.57	4.98 ± 0.94
LOC101943676	uncharacterized	Adult	0.11 ± 0.11	1.68 ± 0.60	2.05 ± 1.14
		Hatchling	**14.42 ± 6.88**	**30.83 ± 19.87**	**29.64 ± 12.42**

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
AIF1L	Contractility: Actin Binding	Adult	12.05 ± 2.63	11.72 ± 1.80	15.04 ± 3.45
		Hatchling	**32.50 ± 2.75**	15.71 ± 4.64	13.20 ± 2.82
HA1F-like	Immune Response	Adult	1.69 ± 0.19	1.45 ± 0.40	1.00 ± 0.28
		Hatchling	**5.35 ± 4.29**	1.94 ± 0.74	1.68 ± 0.44
EPCAM	Cell Structure: Adhesion	Adult	3.40 ± 0.65	4.22 ± 1.50	3.09 ± 0.69
		Hatchling	**8.06 ± 4.59**	2.98 ± 0.27	3.05 ± 1.05
VCAN	Cell Proliferation: Regulation	Adult	6.29 ± 1.75	3.78 ± 0.53	4.04 ± 0.77
		Hatchling	**16.14 ± 8.59**	6.57 ± 0.62	**16.64 ± 9.72**
IGFBPL1	Growth Factor	Adult	164.49 ± 39.08	**242.73 ± 26.88**	202.62 ± 55.15
		Hatchling	126.44 ± 30.66	48.86 ± 31.76	126.39 ± 71.89
FCN2-like	Immune Response: Complement Cascade	Adult	**154.00 ± 16.65**	**129.81 ± 34.22**	**135.04 ± 28.84**
		Hatchling	23.53 ± 9.33	6.07 ± 2.15	15.77 ± 8.46
EGR1	Transcription Factor: Cell Differentiation	Adult	84.66 ± 17.73	70.92 ± 14.02	102.79 ± 11.47
		Hatchling	85.87 ± 30.65	42.49 ± 6.99	70.81 ± 13.68
LOC101952225	Uncharacterized	Adult	1.76 ± 0.89	**2.51 ± 0.33**	**3.16 ± 1.58**
		Hatchling	2.67 ± 2.09	0.86 ± 0.23	1.56 ± 0.41
KCNJ5	Signaling: Membrane Potential	Adult	0.59 ± 0.59	0.03 ± 0.02	0.02 ± 0.02
		Hatchling	**8.65 ± 4.77**	**8.56 ± 4.36**	**4.31 ± 1.70**
ITLN-like	Immune Response	Adult	0.08 ± 0.05	0.20 ± 0.09	0.21 ± 0.08
		Hatchling	**11.27 ± 6.38**	**11.51 ± 6.48**	**4.09 ± 3.46**
RPL37A-like	Translation	Adult	611.29 ± 93.38	533.84 ± 178.65	535.44 ± 327.86
		Hatchling	1178.07 ± 212.75	775.66 ± 119.63	344.87 ± 119.54
TUBA1D-like	Cell Structure	Adult	5.14 ± 0.26	6.88 ± 2.93	8.41 ± 1.80
		Hatchling	**14.96 ± 3.86**	**14.19 ± 6.14**	4.86 ± 2.46
CR1L	Immune Response: Complement Cascade	Adult	95.17 ± 60.67	111.77 ± 39.07	**91.58 ± 34.10**
		Hatchling	184.09 ± 63.48	125.12 ± 37.95	18.46 ± 3.25
TAF13	Transcriptional Regulation	Adult	21.39 ± 4.27	17.42 ± 3.86	**15.41 ± 1.76**
		Hatchling	18.12 ± 2.71	11.32 ± 2.56	6.70 ± 1.03
LOC101942727	Uncharacterized	Adult	**13.88 ± 4.73**	8.96 ± 1.72	**26.71 ± 5.87**
		Hatchling	6.29 ± 3.03	**4.78 ± 4.29**	2.17 ± 0.87

Significant increases from control FPKM (log2 fold-change ≥ 1) are highlighted in green while significant decreases from control FPKM (log2 fold-change ≤ -1) are highlighted in purple. Genes that are also significant different between development stages during anoxia or recovery (log2 fold-change ≥ 1 or ≤ -1) are highlighted in yellow.

Table S6. *Potential Maladaptive Genes During Anoxia and Recovery.*

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
THBS4	Cell-Cell Interactions	Adult	3.81 ± 1.21	0.78 ± 0.34	1.03 ± 0.37
		Hatchling	3.32 ± 1.05	**6.51 ± 1.07**	**4.43 ± 1.14**
MAP2-like	Cell Structure	Adult	20.81 ± 6.21	8.85 ± 2.15	9.41 ± 2.23
		Hatchling	31.44 ± 6.77	15.29 ± 2.37	**28.95 ± 3.42**
MYH6	Contractility	Adult	5.43 ± 4.74	0.70 ± 0.22	2.58 ± 1.00
		Hatchling	**97.49 ± 19.71**	**144.37 ± 48.36**	**73.74 ± 25.88**
CYR61	Development: Cell Adhesion	Adult	94.34 ± 37.28	30.45 ± 6.38	36.98 ± 11.46
		Hatchling	**493.10 ± 99.99**	**367.69 ± 70.00**	**216.97 ± 54.51**
CLEC2D-like	Signaling: Cell Surface Receptor	Adult	24.92 ± 13.31	1.40 ± 0.63	2.37 ± 1.06
		Hatchling	17.92 ± 11.89	**18.03 ± 9.30**	**6.52 ± 3.08**
MATN4	Extracelular Matrix	Adult	2.41 ± 1.94	0.38 ± 0.09	0.43 ± 0.11
		Hatchling	6.13 ± 1.45	**8.84 ± 2.31**	**8.48 ± 0.50**
B3GNT4-like	Glycoprotein synthesis	Adult	**5.70 ± 1.96**	1.47 ± 0.76	1.38 ± 0.80
		Hatchling	2.07 ± 1.20	**3.82 ± 0.93**	1.99 ± 1.26
NPPA-like	Hormone Activity: Cardiovascular Homeostasis	Adult	**107.38 ± 61.36**	16.56 ± 13.90	10.13 ± 4.76
		Hatchling	46.86 ± 11.13	**134.69 ± 71.29**	**72.31 ± 25.13**
GATA1	Transcription Factor: Cell Differentiation	Adult	6.96 ± 1.14	3.01 ± 0.66	4.70 ± 1.52
		Hatchling	7.01 ± 0.63	**11.59 ± 1.41**	**11.32 ± 0.85**
MFAP4	Cell Structure: Adhesion	Adult	20.96 ± 3.10	10.41 ± 1.23	15.54 ± 2.51
		Hatchling	29.99 ± 8.94	**34.27 ± 6.31**	**34.05 ± 3.97**
SOWAHC-like	Uncharacterized	Adult	13.17 ± 5.78	6.34 ± 0.96	7.99 ± 2.71
		Hatchling	19.39 ± 3.23	**21.75 ± 2.60**	**27.84 ± 3.83**
GSTM1-like	Metabolism: Glutathione Metabolism	Adult	14.82 ± 7.03	4.54 ± 0.36	8.33 ± 1.74
		Hatchling	14.41 ± 8.04	**13.98 ± 1.30**	6.81 ± 0.90
GSTM1-like	Metabolism: Glutathione Metabolism	Adult	59.51 ± 25.06	22.59 ± 3.99	39.59 ± 8.03
		Hatchling	64.04 ± 29.22	**53.61 ± 4.37**	34.27 ± 4.36
IGFBP2	Growth Factor	Adult	4.56 ± 2.63	1.00 ± 0.25	8.31 ± 4.99
		Hatchling	**10.58 ± 5.46**	**11.81 ± 4.09**	14.99 ± 4.87
MLXIPL	Transcription Factor:Triglyceride Synthesis	Adult	6.31 ± 1.49	3.13 ± 0.78	5.78 ± 1.35
		Hatchling	7.28 ± 1.29	**8.02 ± 0.61**	6.98 ± 0.87
TIGD4-like	Biding: Chromatin	Adult	3.89 ± 0.99	1.64 ± 0.13	2.04 ± 0.29
		Hatchling	3.71 ± 0.53	3.20 ± 0.71	**4.47 ± 0.39**
PRKACA-like	Post Translational Modification: Phosphorylation	Adult	2.79 ± 1.20	2.53 ± 0.71	3.17 ± 0.84
		Hatchling	1.84 ± 0.22	**5.08 ± 1.84**	**4.65 ± 1.74**

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
APOH	Binding: Coagulation	Adult	**25.95 ± 9.11**	13.76 ± 6.03	5.74 ± 5.49
		Hatchling	7.56 ± 4.47	10.10 ± 4.55	**16.97 ± 1.48**
RPRM	Cell Cycle	Adult	4.37 ± 2.47	3.22 ± 0.33	1.69 ± 0.59
		Hatchling	4.68 ± 0.62	**8.14 ± 3.01**	**6.10 ± 2.64**
TP53I11	Cell Proliferation: Regulation	Adult	8.99 ± 5.17	6.33 ± 1.78	3.35 ± 0.39
		Hatchling	13.26 ± 5.68	11.78 ± 8.58	**9.86 ± 5.74**
CPE	Peptide Synthesis	Adult	6.18 ± 1.13	4.84 ± 1.71	2.30 ± 0.29
		Hatchling	**16.05 ± 2.98**	**21.85 ± 2.80**	**18.51 ± 1.25**
MYL2	Contractility	Adult	1.04 ± 0.44	1.36 ± 0.27	2.13 ± 0.14
		Hatchling	**38.76 ± 6.60**	**86.73 ± 27.57**	**103.70 ± 36.74**
ELN	Extracelular Matrix	Adult	2.67 ± 0.93	2.40 ± 0.49	2.31 ± 0.32
		Hatchling	4.61 ± 1.08	**8.81 ± 3.43**	**9.69 ± 2.69**
ALAS2-like	Heme biosynthesis	Adult	9.68 ± 2.44	7.53 ± 2.90	8.72 ± 2.80
		Hatchling	8.25 ± 2.00	**16.98 ± 1.91**	**19.00 ± 2.14**
METRNL	Cold-Induced Thermogenic Response	Adult	1.46 ± 1.21	0.34 ± 0.19	0.17 ± 0.07
		Hatchling	0.98 ± 0.65	**4.42 ± 3.22**	**8.98 ± 4.41**
CHGB	Hormone Activity	Adult	0.69 ± 0.11	0.75 ± 0.17	0.45 ± 0.16
		Hatchling	0.98 ± 0.49	**3.97 ± 1.69**	**8.72 ± 3.47**
HBAA	Oxygen Transport	Adult	602.61 ± 137.23	381.69 ± 101.12	428.41 ± 94.71
		Hatchling	764.21 ± 184.15	**2132.55 ± 425.10**	**1806.81 ± 294.54**
HBAD	Oxygen Transport	Adult	234.65 ± 22.75	147.49 ± 32.77	172.90 ± 51.25
		Hatchling	266.32 ± 72.55	**751.79 ± 166.64**	**664.92 ± 109.48**
HBB	Oxygen Transport	Adult	1124.02 ± 290.52	710.12 ± 253.36	833.93 ± 232.40
		Hatchling	767.51 ± 247.70	**2067.65 ± 592.31**	1494.93 ± 370.84
HBB	Oxygen Transport	Adult	0.22 ± 0.07	0.39 ± 0.05	0.35 ± 0.19
		Hatchling	**78.36 ± 21.71**	**166.39 ± 42.48**	**178.71 ± 21.42**
HBE1-like	Oxygen Transport	Adult	1.00 ± 0.38	1.28 ± 0.35	0.37 ± 0.16
		Hatchling	**242.19 ± 41.46**	**731.07 ± 206.20**	**599.84 ± 155.55**
SLPI-like	Immune Response: Antibacterial	Adult	20.29 ± 3.23	15.73 ± 3.88	33.31 ± 10.56
		Hatchling	**82.74 ± 33.84**	**157.16 ± 25.76**	**233.30 ± 75.52**
Ovomucoid-like	Signaling: Serine Protease Inhibitor	Adult	0.11 ± 0.11	1.68 ± 0.60	2.05 ± 1.14
		Hatchling	**14.42 ± 6.88**	**30.83 ± 19.87**	**29.64 ± 12.42**
VENT1B-like	Transcription Factor	Adult	1.85 ± 0.85	2.41 ± 1.60	0.90 ± 0.29
		Hatchling	1.39 ± 0.14	3.45 ± 2.13	**5.75 ± 2.95**

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
NCR3LG1-like	Immune Response	Adult	52.02 ± 7.55	29.91 ± 11.51	42.91 ± 14.80
		Hatchling	58.33 ± 4.81	**132.51 ± 39.03**	**101.44 ± 9.51**
CCDC171	Transcription Factor	Adult	1.99 ± 0.33	2.70 ± 0.25	1.91 ± 0.62
		Hatchling	**5.37 ± 2.03**	**11.05 ± 4.47**	**8.60 ± 1.95**
CA1	Respiration: Acid/Base Balance	Adult	91.97 ± 18.36	59.53 ± 23.59	106.29 ± 45.87
		Hatchling	59.73 ± 12.42	**163.76 ± 26.40**	92.79 ± 22.35
PPOX	Heme biosynthesis	Adult	3.15 ± 0.63	4.32 ± 0.77	2.67 ± 0.85
		Hatchling	5.56 ± 2.24	**23.39 ± 17.17**	3.08 ± 0.56
CCL13-like	Signaling: Chemokine	Adult	9.88 ± 1.09	8.44 ± 3.38	4.72 ± 0.68
		Hatchling	15.74 ± 2.97	**35.39 ± 5.75**	**10.41 ± 4.27**
FAM184A	Uncharacterized	Adult	13.18 ± 6.30	9.76 ± 0.74	8.28 ± 1.16
		Hatchling	11.09 ± 6.42	**27.01 ± 8.86**	**19.31 ± 8.47**
LTB4R	Signaling: Cardiac Muscle Contracting	Adult	1.38 ± 0.31	0.98 ± 0.16	1.58 ± 0.64
		Hatchling	2.83 ± 0.74	**3.65 ± 0.66**	**7.42 ± 0.87**
ALAS2	Heme biosynthesis	Adult	4.69 ± 1.16	3.53 ± 0.96	3.18 ± 0.83
		Hatchling	4.89 ± 1.25	**9.09 ± 1.10**	**11.51 ± 0.71**
TF	Ion Homeostasis: Iron	Adult	9.58 ± 1.87	9.87 ± 1.65	16.45 ± 3.77
		Hatchling	16.47 ± 6.10	**32.83 ± 4.13**	**47.85 ± 13.61**
DDN1-like	Immune Response: Antibacterial	Adult	2.26 ± 0.52	0.98 ± 0.34	3.32 ± 1.46
		Hatchling	2.47 ± 0.75	**3.18 ± 1.03**	**16.04 ± 12.87**
LOC101954115	Immune Response: Chemokine Activity	Adult	0.60 ± 0.19	0.53 ± 0.15	0.99 ± 0.41
		Hatchling	**2.98 ± 1.28**	**4.32 ± 0.54**	**8.67 ± 2.17**
IL1R2	Signaling: Cytokine Decoy Receptor	Adult	0.64 ± 0.26	0.80 ± 0.25	1.01 ± 0.40
		Hatchling	**2.76 ± 1.04**	**3.60 ± 1.29**	**8.49 ± 2.82**
CD59A-like	Immune Response: Complement Cascade	Adult	0.14 ± 0.14	0.19 ± 0.19	0.16 ± 0.07
		Hatchling	**2.77 ± 1.16**	**2.18 ± 1.78**	**9.18 ± 6.59**
SLAMF9-like	Immune Response	Adult	3.68 ± 1.09	2.39 ± 1.19	2.29 ± 0.61
		Hatchling	4.38 ± 1.52	4.50 ± 2.16	**11.01 ± 5.73**
SRGN	Secretory Granule Organization	Adult	16.11 ± 2.16	18.79 ± 1.42	22.69 ± 3.37
		Hatchling	21.47 ± 3.17	24.92 ± 3.01	**45.85 ± 8.40**
EDNRB	Signaling: GCPR	Adult	6.85 ± 2.42	8.80 ± 2.02	4.69 ± 1.17
		Hatchling	4.99 ± 0.66	6.47 ± 0.98	**10.33 ± 3.56**
ATP5F1B-like	Respiratory electron transport	Adult	**5.65 ± 3.87**	**3.02 ± 0.82**	2.91 ± 0.53
		Hatchling	1.83 ± 0.33	1.72 ± 0.64	**7.26 ± 3.10**

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
AXL-like	Signaling: ERK	Adult	12.60 ± 3.10	**23.60 ± 4.91**	16.27 ± 4.75
		Hatchling	13.28 ± 4.19	10.52 ± 1.45	**33.12 ± 12.49**
BTN1A1-like	Immune Response	Adult	**3.89 ± 1.83**	2.95 ± 0.91	1.82 ± 0.74
		Hatchling	1.00 ± 0.57	4.02 ± 2.37	2.22 ± 1.18
SFRP4	Signaling: WNT	Adult	9.43 ± 5.85	**3.30 ± 1.00**	**3.03 ± 1.60**
		Hatchling	3.73 ± 3.02	0.47 ± 0.12	1.17 ± 0.24
SIGLEC13	Cell Structure: Adhesion	Adult	**21.88 ± 5.88**	**11.52 ± 6.42**	**9.09 ± 5.81**
		Hatchling	0.15 ± 0.06	0.86 ± 0.64	2.14 ± 0.81
ISG15	Immune Response: ISGylation	Adult	**101.51 ± 67.08**	**117.73 ± 50.23**	**47.87 ± 19.78**
		Hatchling	11.71 ± 7.67	3.85 ± 1.37	4.92 ± 1.12
APOL4-like	Lipid Transport	Adult	**10.69 ± 1.65**	**11.49 ± 5.69**	**5.31 ± 0.72**
		Hatchling	1.71 ± 0.45	1.72 ± 0.45	1.26 ± 0.47
SLC26A4	Membrane Transport: Chloride/Iodide	Adult	**12.98 ± 2.99**	**9.64 ± 2.88**	**5.05 ± 1.52**
		Hatchling	0.60 ± 0.14	0.76 ± 0.35	0.76 ± 0.25
MAMU-DRA-like	Immune Response	Adult	**14.64 ± 7.92**	**8.10 ± 2.03**	**6.47 ± 2.84**
		Hatchling	0.41 ± 0.20	0.38 ± 0.16	0.51 ± 0.29
MR1-like	Immune Response: MAIT lymphocyte Development	Adult	**18.84 ± 6.34**	**28.42 ± 11.55**	**9.30 ± 7.10**
		Hatchling	1.52 ± 0.72	2.33 ± 1.37	1.30 ± 1.17
IFI6-like	Apoptosis	Adult	**158.87 ± 100.40**	**195.71 ± 74.11**	**50.64 ± 29.23**
		Hatchling	31.97 ± 25.41	31.81 ± 18.76	22.19 ± 6.22
FGF10	Growth Factor: Morphogenesis	Adult	**5.86 ± 1.85**	**4.99 ± 1.53**	**2.49 ± 0.95**
		Hatchling	1.05 ± 0.25	1.34 ± 0.33	0.66 ± 0.10
KRT19	Cell Structure	Adult	**41.60 ± 13.79**	**27.10 ± 9.92**	**24.50 ± 6.59**
		Hatchling	9.81 ± 5.80	6.58 ± 1.27	3.99 ± 1.16
TCAP	Contractility: Structural	Adult	**881.36 ± 231.78**	**582.37 ± 373.15**	**431.76 ± 268.04**
		Hatchling	107.08 ± 41.88	64.86 ± 25.59	62.28 ± 17.87
ITGAD, ITGAM	Signaling: ERK	Adult	**5.82 ± 3.01**	**4.55 ± 1.84**	**1.52 ± 0.85**
		Hatchling	0.26 ± 0.06	0.20 ± 0.07	0.46 ± 0.35
GFRA3	Signaling: GDNF Receptor	Adult	**222.97 ± 42.62**	**232.62 ± 96.65**	**86.74 ± 23.92**
		Hatchling	33.47 ± 13.47	26.71 ± 8.67	6.86 ± 0.85
LOC101932961	Uncharacterized	Adult	**4.42 ± 0.85**	**5.03 ± 2.56**	**2.20 ± 0.17**
		Hatchling	0.91 ± 0.20	0.95 ± 0.23	0.74 ± 0.12
TMEM52	Uncharacterized	Adult	**6.34 ± 3.29**	**3.65 ± 0.61**	**2.65 ± 0.59**
		Hatchling	1.65 ± 0.32	1.68 ± 0.45	1.18 ± 0.14

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
FCN3	Immune Response: Complement Cascade	Adult	**70.02 ± 17.68**	**33.13 ± 8.24**	**38.63 ± 7.30**
		Hatchling	23.64 ± 5.37	8.34 ± 1.60	13.70 ± 3.74
APOL4-like	Lipid Transport	Adult	**6.90 ± 0.88**	**2.55 ± 1.72**	**4.47 ± 0.42**
		Hatchling	0.90 ± 0.31	1.28 ± 0.71	0.90 ± 0.30
CDNF	Neurotrophic Factor	Adult	**6.01 ± 0.69**	**2.81 ± 0.64**	**4.32 ± 0.87**
		Hatchling	1.52 ± 0.49	1.28 ± 0.50	1.68 ± 0.25
SPP1	Immune Response: Cytokine Activity	Adult	29.53 ± 15.61	**14.21 ± 0.87**	**18.58 ± 7.20**
		Hatchling	17.69 ± 7.44	3.67 ± 1.41	2.32 ± 1.00
TRIM41-like	Post Translational Modification: Ubiquitination	Adult	**64.89 ± 9.26**	**16.06 ± 8.98**	**16.42 ± 6.83**
		Hatchling	2.13 ± 0.31	2.58 ± 1.03	2.16 ± 1.35
LOC101941125	Peptide Digestion	Adult	**6.38 ± 0.51**	**6.28 ± 0.98**	2.91 ± 0.53
		Hatchling	2.58 ± 0.86	1.55 ± 0.88	1.68 ± 0.49
PINLYP-like	Phospholipase Inhibition	Adult	**305.18 ± 219.53**	**77.02 ± 47.03**	10.85 ± 4.48
		Hatchling	15.24 ± 13.91	36.09 ± 28.52	**28.28 ± 14.58**
TRIM27-like	Post Translational Modification: Ubiquitination	Adult	**7.70 ± 3.21**	2.46 ± 2.46	**5.84 ± 1.95**
		Hatchling	0.80 ± 0.51	1.67 ± 0.75	1.32 ± 0.75
SEMA7A	Signaling: Protein Kinase	Adult	**6.91 ± 1.64**	3.36 ± 0.37	**6.81 ± 1.19**
		Hatchling	3.23 ± 0.70	3.08 ± 0.49	2.89 ± 0.39
H2-EB1-like	Immune Response	Adult	**21.04 ± 9.95**	0.05 ± 0.02	**8.47 ± 8.39**
		Hatchling	0.03 ± 0.02	0.03 ± 0.03	0.02 ± 0.01
RTRAF	Translation	Adult	17.34 ± 7.86	4.20 ± 4.20	**15.08 ± 5.37**
		Hatchling	15.23 ± 5.23	5.45 ± 5.33	4.26 ± 4.26
LOC101946291	Binding: Carbohydrate	Adult	**65.09 ± 24.55**	27.24 ± 6.61	24.71 ± 4.31
		Hatchling	28.87 ± 16.98	35.64 ± 16.13	38.66 ± 12.27
CYP26B1	Binding: Heme	Adult	**19.66 ± 5.20**	10.44 ± 4.26	8.62 ± 3.25
		Hatchling	5.75 ± 0.86	6.42 ± 2.25	6.63 ± 0.89
ARHGAP6	Contractility: Actin Binding	Adult	**27.40 ± 21.52**	6.22 ± 0.36	6.20 ± 0.66
		Hatchling	7.70 ± 0.68	8.65 ± 1.59	9.41 ± 0.49
COL20A1	Extracelular Matrix	Adult	**2.85 ± 1.00**	2.29 ± 0.40	1.39 ± 0.41
		Hatchling	0.79 ± 0.20	2.62 ± 0.90	2.60 ± 0.74
TRIM15-like	Immune Response	Adult	**6.26 ± 2.78**	1.51 ± 0.83	3.86 ± 1.04
		Hatchling	1.98 ± 0.85	1.28 ± 0.64	0.24 ± 0.15
FAM19A3-like	Immune Response: Neurokine activity	Adult	**12.63 ± 3.73**	4.16 ± 1.31	4.90 ± 1.59
		Hatchling	6.11 ± 1.50	3.76 ± 2.18	2.92 ± 1.73

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
TIMP1	Post Translational Modification: Metalloproteinase Inhibitor	Adult	**42.70 ± 12.21**	13.91 ± 4.37	16.44 ± 4.35
		Hatchling	14.21 ± 2.62	19.84 ± 4.55	11.85 ± 4.44
NNMT-like	Nicotinamide N-methylation	Adult	**16.86 ± 2.47**	11.66 ± 3.73	7.29 ± 0.64
		Hatchling	4.50 ± 0.65	14.38 ± 4.10	4.44 ± 0.38
AHR-like	Transcription Factor	Adult	**8.83 ± 3.86**	2.12 ± 0.77	4.90 ± 3.92
		Hatchling	2.61 ± 1.15	1.85 ± 0.56	3.14 ± 1.43
SIRPB1-like	Signaling: Protein Kinase	Adult	**8.94 ± 4.93**	2.00 ± 0.61	3.29 ± 1.32
		Hatchling	3.03 ± 1.44	3.92 ± 1.46	4.09 ± 2.04
CLEC2D-like	Signaling: Cell Surface Receptor	Adult	7.08 ± 1.91	2.62 ± 0.90	3.42 ± 0.92
		Hatchling	3.99 ± 2.11	3.56 ± 1.61	3.78 ± 1.30
CSF2RB	Immune Response	Adult	5.56 ± 1.85	2.07 ± 0.79	1.90 ± 0.24
		Hatchling	5.12 ± 1.17	2.68 ± 0.58	2.97 ± 0.35
CEMIP2-like	Hyaluronan catabolism, VEGF signaling regulation	Adult	22.88 ± 8.70	8.38 ± 3.52	6.56 ± 2.77
		Hatchling	14.30 ± 3.75	11.47 ± 1.03	8.74 ± 1.40
DDC	Dopamine Synthesis	Adult	4.31 ± 1.69	1.71 ± 0.72	2.04 ± 0.35
		Hatchling	2.57 ± 0.29	2.59 ± 0.53	1.62 ± 0.53
TSPAN7	Immune Response	Adult	27.57 ± 6.39	13.13 ± 2.55	13.17 ± 3.43
		Hatchling	17.76 ± 1.12	17.72 ± 2.27	15.49 ± 1.89
ABO	Immune Response: glycosylation	Adult	12.36 ± 2.71	4.28 ± 1.44	5.31 ± 1.17
		Hatchling	7.60 ± 1.30	5.25 ± 1.54	6.03 ± 0.78
STEAP4	Ion Homeostasis: Iron	Adult	11.35 ± 5.73	4.40 ± 0.53	3.56 ± 0.79
		Hatchling	6.79 ± 1.47	4.25 ± 0.62	4.24 ± 0.92
SOCS1	Immune Response: Cytokine Activity	Adult	6.56 ± 2.43	2.51 ± 0.51	**3.13 ± 0.96**
		Hatchling	4.84 ± 1.44	2.21 ± 0.49	1.27 ± 0.22
BTG2	RNA modification: cell cycle regulation	Adult	38.14 ± 8.22	10.97 ± 1.97	18.91 ± 4.32
		Hatchling	38.77 ± 6.13	16.23 ± 2.84	15.21 ± 2.62
CISH	Signaling: Cytokine Inhibitor	Adult	7.49 ± 1.65	2.68 ± 0.77	6.18 ± 2.15
		Hatchling	9.97 ± 1.59	5.22 ± 0.69	4.53 ± 0.74
ANKRD1	Transcription Factor: cardiac	Adult	13.07 ± 6.69	4.68 ± 2.05	11.41 ± 5.17
		Hatchling	15.50 ± 3.11	6.80 ± 1.76	13.21 ± 5.31
LOC101931610	Uncharacterized	Adult	3.74 ± 0.56	1.71 ± 0.27	2.25 ± 0.14
		Hatchling	2.69 ± 0.47	2.17 ± 0.25	2.11 ± 0.38
PLK2	Cell Cycle: G1/S Phase Transition	Adult	29.99 ± 8.13	14.95 ± 2.25	21.65 ± 7.90
		Hatchling	16.53 ± 3.13	20.81 ± 3.97	19.36 ± 2.34

Gene	Classification	Development	Control Mean ± SEM FPKM	Anoxia Mean ± SEM FPKM	Recovery Mean ± SEM FPKM
MS4A1	Immune Response: B-Cell Development	Adult	28.05 ± 5.37	11.31 ± 0.64	15.82 ± 2.02
		Hatchling	15.48 ± 4.45	19.89 ± 4.12	14.88 ± 3.16
RAPSN	Neuromuscular Junction	Adult	4.48 ± 0.33	2.24 ± 0.34	3.36 ± 0.71
		Hatchling	3.58 ± 0.17	3.53 ± 0.59	4.10 ± 0.62
H2AFJ-like	Nucleosome	Adult	128.13 ± 41.21	54.20 ± 10.14	71.18 ± 17.58
		Hatchling	88.91 ± 33.90	75.92 ± 23.63	87.23 ± 20.35
FAR2	Fatty Acyl-CoA Reductase Activity	Adult	7.23 ± 0.88	4.13 ± 1.08	3.45 ± 0.89
		Hatchling	4.89 ± 1.05	4.27 ± 0.46	4.07 ± 0.16
MIEN1-like	Cell Migration	Adult	3.57 ± 1.69	2.69 ± 0.65	1.38 ± 0.37
		Hatchling	1.90 ± 0.69	2.38 ± 0.76	2.12 ± 0.33
CEMIP	Hyaluronan catabolism	Adult	9.13 ± 3.90	5.72 ± 1.86	3.92 ± 1.54
		Hatchling	5.33 ± 1.12	4.38 ± 0.67	5.82 ± 1.11
NLRP1B-like	Immune Response: Cytokine Activity	Adult	3.51 ± 0.40	2.39 ± 0.81	1.64 ± 0.26
		Hatchling	1.92 ± 0.26	1.97 ± 0.21	1.93 ± 0.33
SLC20A2	Membrane Transport: Sodium-phosphate Symporter	Adult	17.75 ± 3.92	10.72 ± 1.92	8.85 ± 0.60
		Hatchling	11.36 ± 1.33	9.42 ± 0.43	8.67 ± 0.70
CAMP	Immune Response: Antibacterial	Adult	21.20 ± 6.11	18.35 ± 6.92	29.00 ± 5.71
		Hatchling	15.65 ± 3.16	22.48 ± 3.95	43.07 ± 9.86
TMC5	Membrane Transport: Iron Conductance	Adult	9.52 ± 2.33	8.11 ± 2.45	7.42 ± 1.02
		Hatchling	5.19 ± 1.57	11.29 ± 3.06	8.46 ± 1.61

Significant increases from control FPKM (log2 fold-change ≥ 1) are highlighted in green while significant decreases from control FPKM (log2 fold-change ≤ -1) are highlighted in purple. Genes that are also significant different between development stages during anoxia or recovery (log2 fold-change ≥ 1 or ≤ -1) are highlighted in yellow.