

Supplementary information

Signature of adaptive evolution in olfactory receptor genes in Cory's Shearwater
supports molecular basis for smell in procellariiform seabirds

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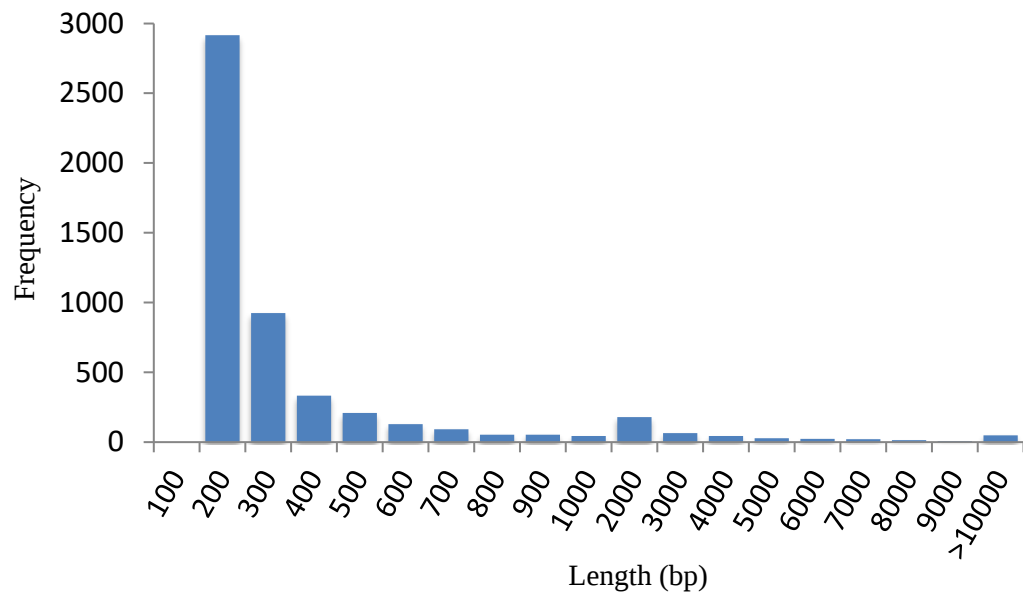
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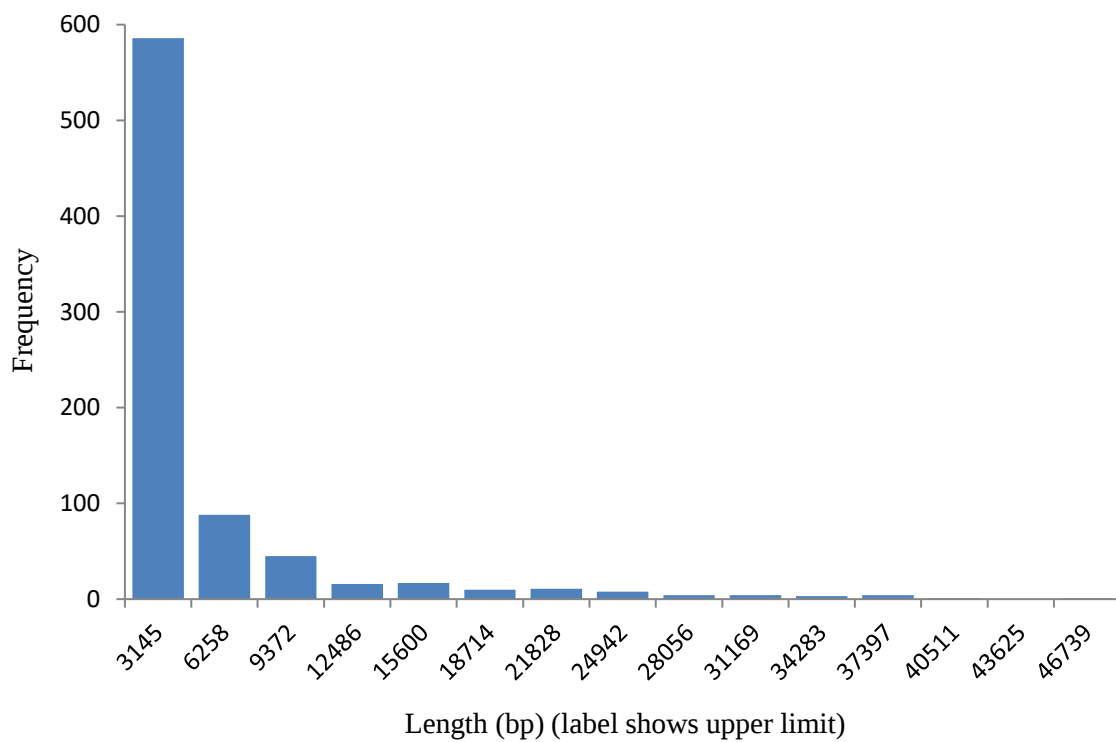
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a)



b)



Supplementary Figure 1. Contig size distribution (in base pairs) of only the Illumina reads (a) and scaffold size from the best hybrid assembly of the 96 cosmids (b).

>Probe1

TGTTGCGATTTGTAAGCCCCTACACTACGGGACCCTCCTGGGCAGCAGAGCTTGTGTCCACATGGCAGC
AGCTGCCTGCGGCAGTGGGTTTATCATTGCTCTGCTGCACACTGCCAATACATTTTCATTGCCCCCTCTGC
AAGGGCAATGCTGTGGACCAATTCTTCTGTGAAATTCCCCCACTCCTCAAGCTCTCCTGCT
CACACGCCTACCTCAGCGAAATTGGGCTTCTAGTGGTTACTTTTTCTTTAGGATTTGGGTGTTTTGTGTT
CATTGTGGTGTCTATGTGGAGATCTTCAGGGCTGTGCTGAGGATCCCCTCTGAGCAGGGGTGGCACA
AAGCCTTTTCCACGTGCCTCCCTCACCTGGCCGTGGTCTCCCTGTTTGCCAGCACTGTCGTG
TTTGCTAACCTGAAGCCCCCTCCATCTCCACCATATCCCTGGATCTGGTGGTGAGTGTTCTGTACTCAG
TGGTACCTCCAGCAGTCAACCCCTTCATATACAGCCTA

>Probe2

TGCGATTTGCAAGCCTCTACACTATGGGACCCTCCTGGGCAGCAGAGCGTGTGTGTCAGCATGGCAGCAG
CTGCCTGGGGCAGTGGGTTTCTCAATGCTGTGCTGCACACTGCCAATACATTTTCACTGCCCCCTCTGCAA
GGGCAATGCTGTGGACCAAGTTCTTCTGTGAAATCCACAGATCCTCAAGCTCTCCTGCTCACACACCTAC
CTCAGGGAAGTTGGGCTTATAGAGTTTAGCCTTTCAGTAGCTTTTGGGTGTTTTATTTTCATCGTGCTGT
CCTATGTGCATATCTTCAGGGCTGTGTTGAGGATCCCCTCTGAGCAGGGGTGGCACAAAACCTTCTCCA
CGTGCCTCCCTCACCTGGCCGTGGTCTCCCTGTTTGTCAGCACTGCCATGTTTGCCTACCTGAAGCCCCC
CTCCATCTCCTCATCCTGGATCTGGTCGTGACAGTTCTTTACTCAGTGGTACCTCCAGCGGTGAAC
CCCTTCATCTACTCCCTA

>Probe3

TGCGATGGCGTACGACCGGTACATTGCGATATGCAAACCATTGCATTACACAACCATAATGAACGGCA
GGTGCTGCCTCCAGTTAGCAGGTGGATCCTGGATAAATGGGTTGTTGGCTAGTGCCATAGTCACCTCTC
TGATGCCACAGCTAACTTTCTGTGGCCCAAATGAAATTGATCATTTCTTCTGTGACTGCACACCGGTGGT
AAAGCTCTCCTGCAGTGATACCCACTGGATTGAGCTTGTAACATTCATCTTGGCCTCCCTTTTCACACTAC
CCCCATTTCTCTTGACGCTCATATCTTACGTGTACATCAGCAACACTGTCCTCAGGATCCCATCCTCCACA
GGAAGGCATAAAGCTTTTTCTACCTGTTCTTCCACCTCACTGTGGTGACACTTTTCTACGGGACCCTGA
TTGTTGTGTAATTGGTACCAAAACCACACGCTGGGAGACCTCAACAAAGTATTCTCTGTCTGCTACAC
AGTTCTCACTCCCATGCTCAACCCCTCATCTA

PROBE 1

Primer forward:

ICKPLHY - 5'-ATCTGYAARCCYITICAYTA

Primer reverse:

NPFIYS(F/L) - 5'-ARISWRTADATRAAIGGRTT

PROBE 2

Primer forward:

VAICKPLHY - 5'-RTTGCIATYTGYAARCCYCTRCACCTA

Primer reverse:

NPFIYS(F/L) - 5'-ARISWRTADATRAAIGGRTT

PROBE 3

Primer forward:

AMAYDRY - 5'-GCIATGGCITAYGAYMGITA

Primer reverse:

PMLNPLIY- 5'-TADATIAGIGGRTTIAGCATIGG

Supplementary Info S1. Probes and primer sequences used to survey the library for OR gene containing cosmid clones. The first two probes target the γ -c clade, the third probe target genes from the γ clade. Primers from Steiger S.S., Fidler A.E., Valcu M., Kempenaers B. Avian olfactory receptor gene repertoires: evidence for a well-developed sense of smell in birds? Proc Biol Sci 275, 2309-2317 (2008).