

A

TAAR pipeline assessment	Present study			Previous studies			Reference
	F	I	P	F	I	P	
<i>Danio rerio</i>	112	1	9	109	N/A	10	Hashiguchi and Nishida 2007
<i>Gasterosteus aculeatus</i>	50	2	15	50	N/A	15	Azzouzi et al. 2015
<i>Oryzias latipes</i>	39	2	4	27	N/A	7	Azzouzi et al. 2015
<i>Takifugu rubripes</i>	24	0	3	13	N/A	6	Hashiguchi and Nishida 2007

B

OlfC pipeline assessment	Present study			Previous studies			Reference
	F	I	P	F	I	P	
<i>Danio rerio</i>	54	3	2	53	1	1	Yang et al. 2019
<i>Gasterosteus aculeatus</i>	22	2	2	13	1	1	Yang et al. 2019
<i>Oryzias latipes</i>	24	0	2	16	1	2	Yang et al. 2019
<i>Takifugu rubripes</i>	27	0	4	16	2	3	Yang et al. 2019

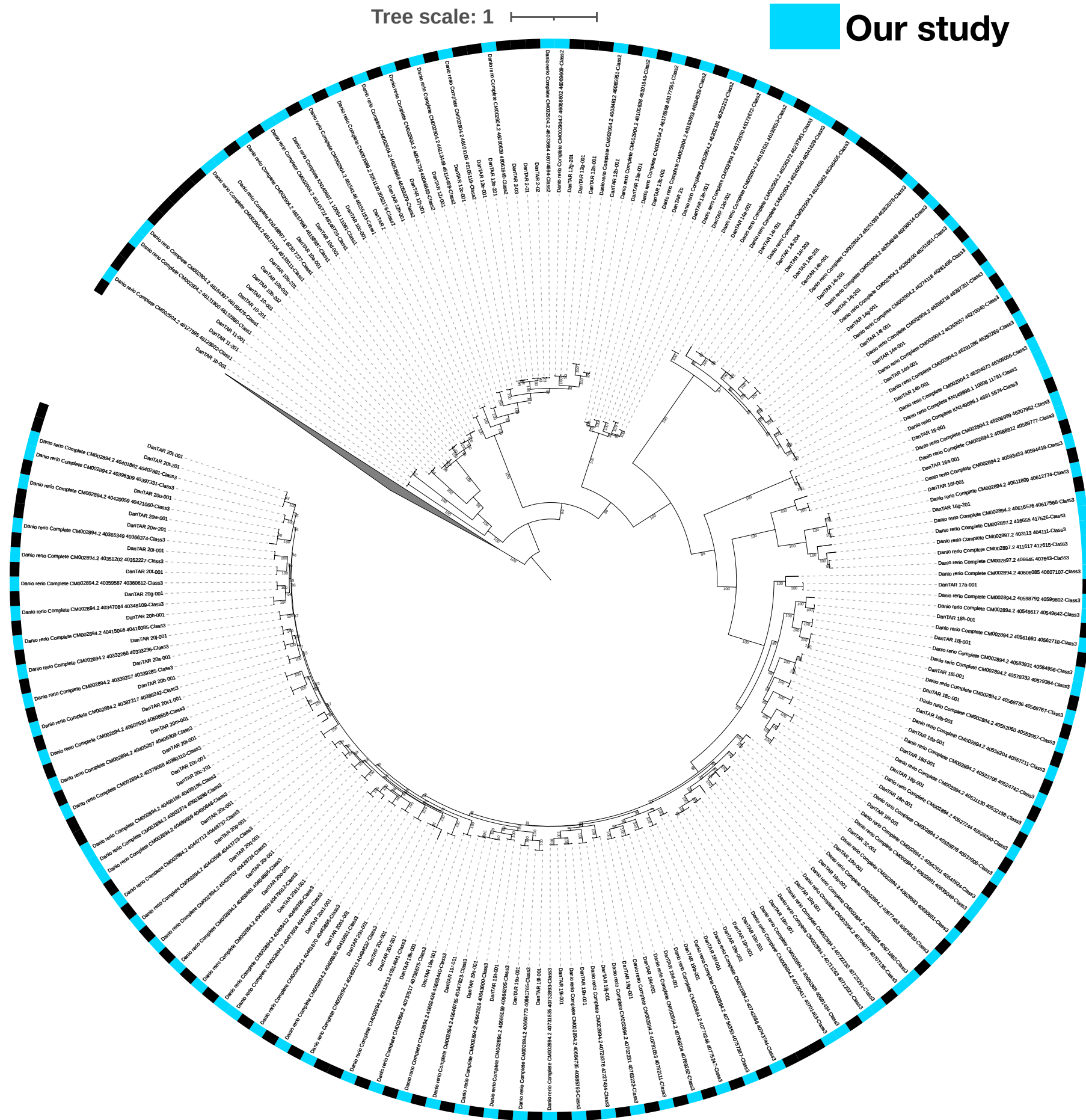
C

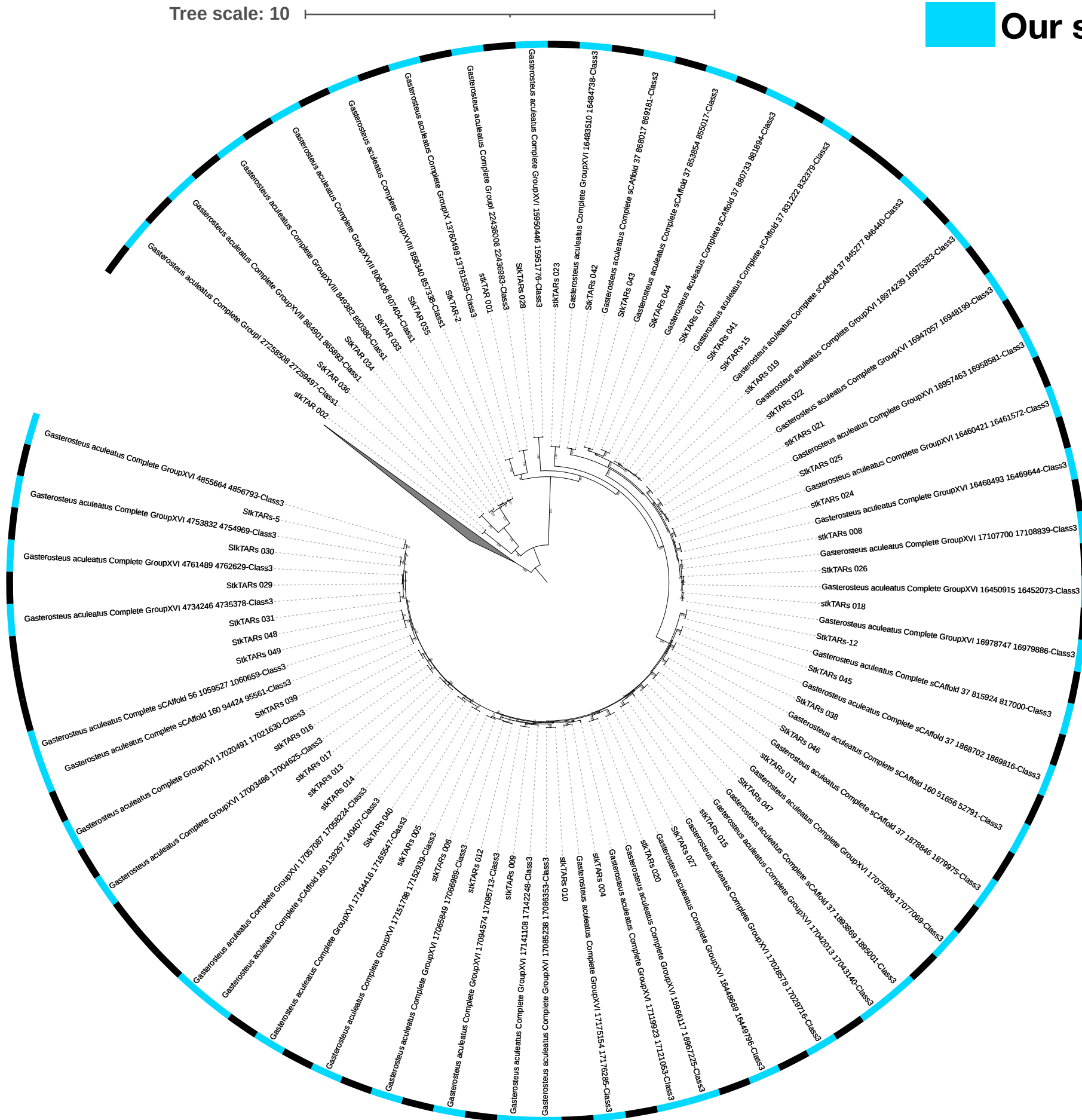
ORA pipeline assessment	Present study			Previous studies			Reference
	F	I	P	F	I	P	
<i>Danio rerio</i>	7	0	0	7	N/A	N/A	Zapilko and Korsching 2016
<i>Gasterosteus aculeatus</i>	5	0	1	6	N/A	N/A	Zapilko and Korsching 2016
<i>Oryzias latipes</i>	7	0	1	7	N/A	N/A	Zapilko and Korsching 2016
<i>Takifugu rubripes</i>	5	0	1	5	N/A	N/A	Zapilko and Korsching 2016

D *Danio rerio* - TAAR genes comparison

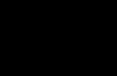
Hashiguchi and Nishida 2007

Our study



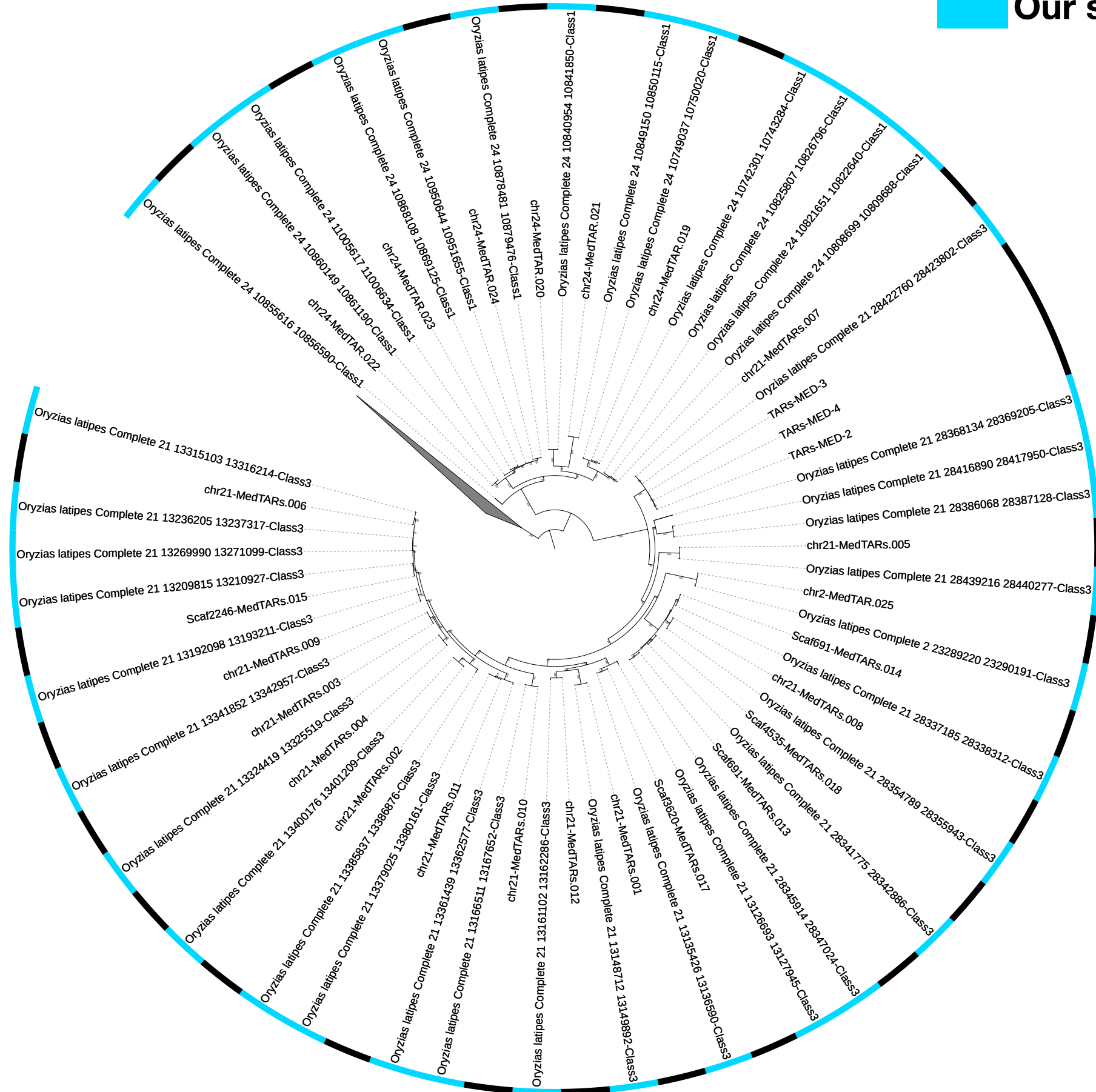


F *Oryzias latipes* - TAAR genes comparison

 Azzouzi et al. 2015

 Our study

Tree scale: 10



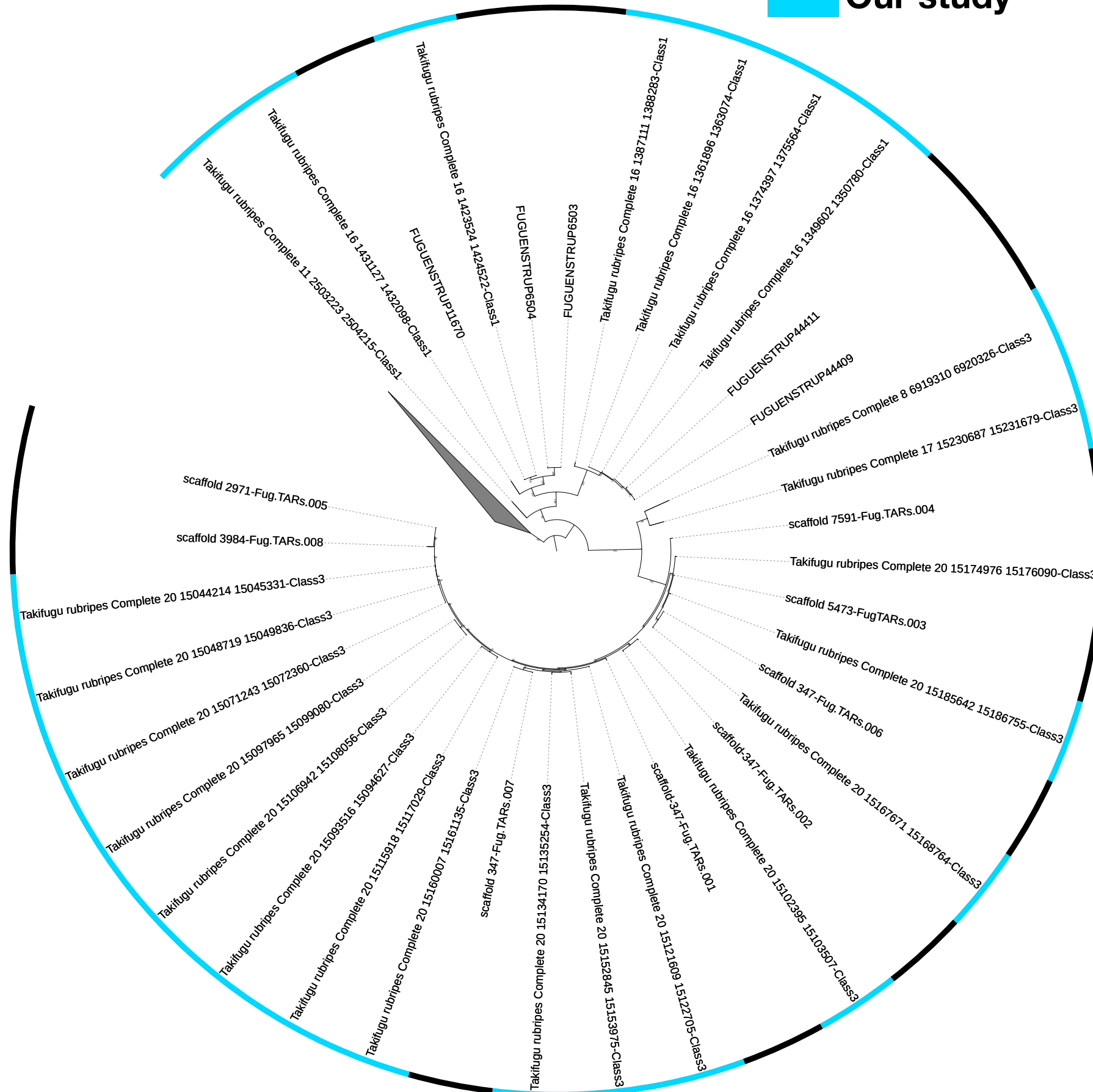
G

Takifugu rubripes - TAAR genes comparison

Hashiguchi and Nishida 2007

Our study

Tree scale: 10

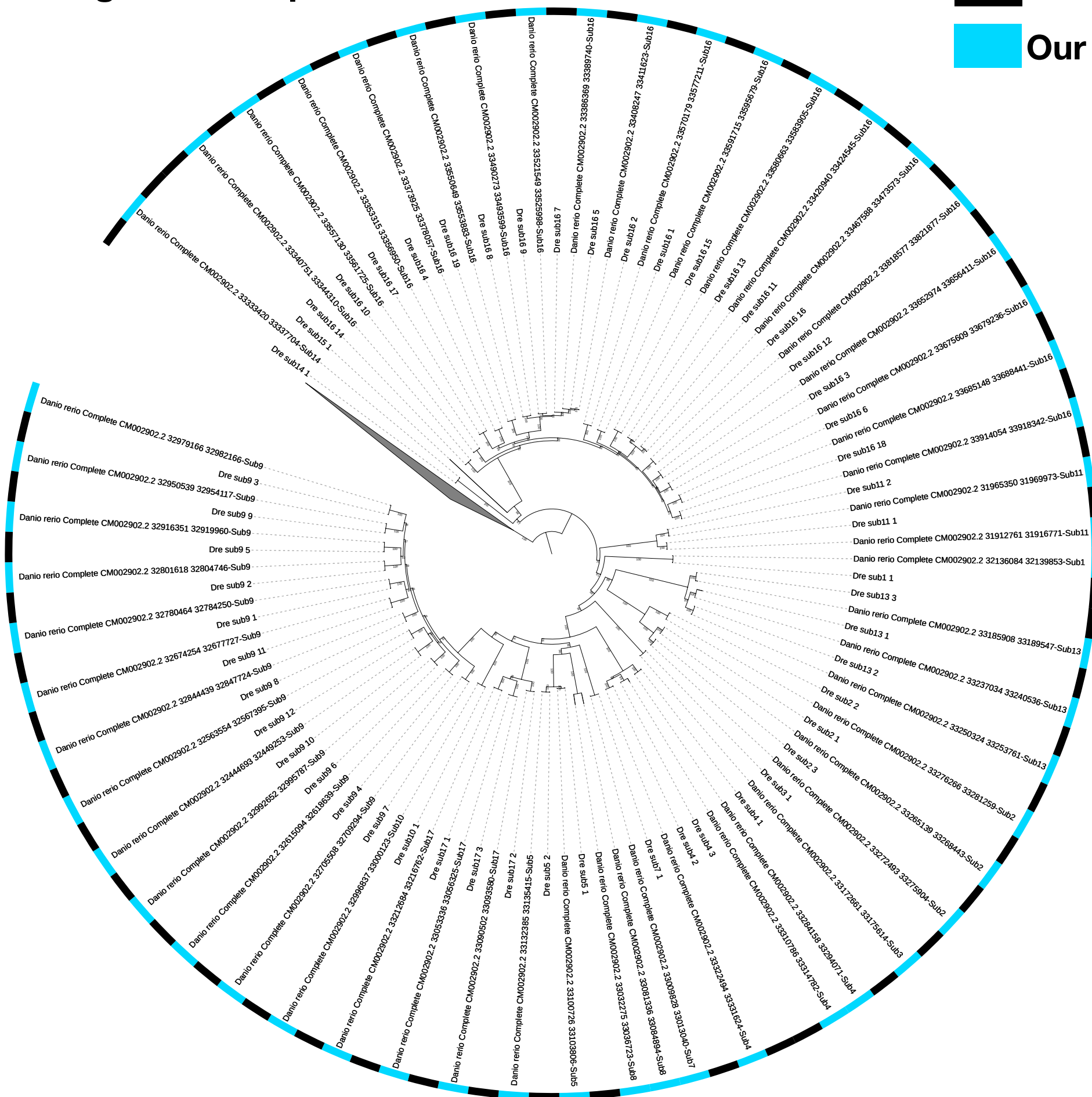


H *Danio rerio* - OlfC genes comparison

Tree scale: 1

Yang et al. 2019

Our study

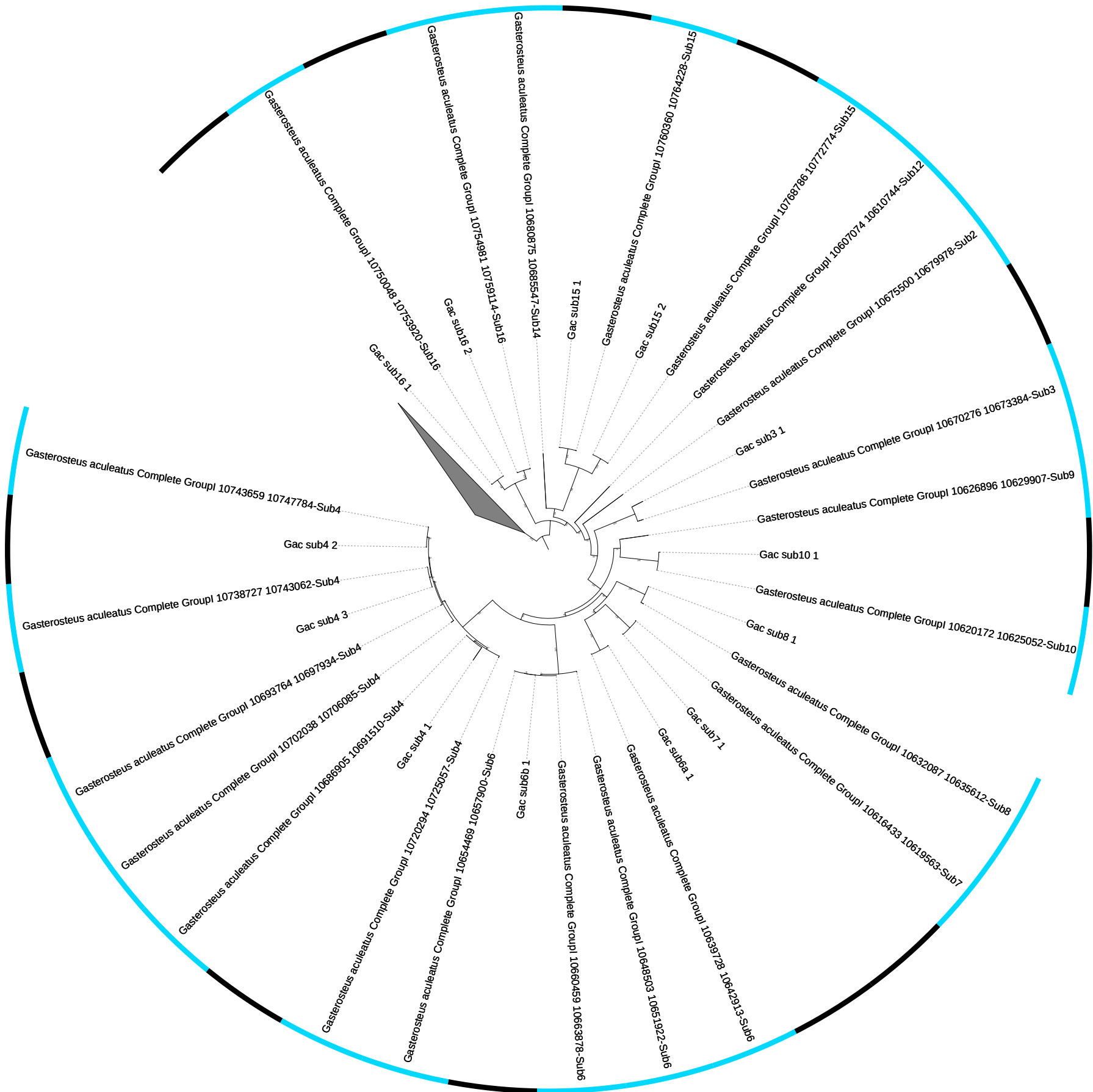


Gasterosteus aculeatus - OlfC genes comparison

Yang et al. 2019

Our study

Tree scale: 1



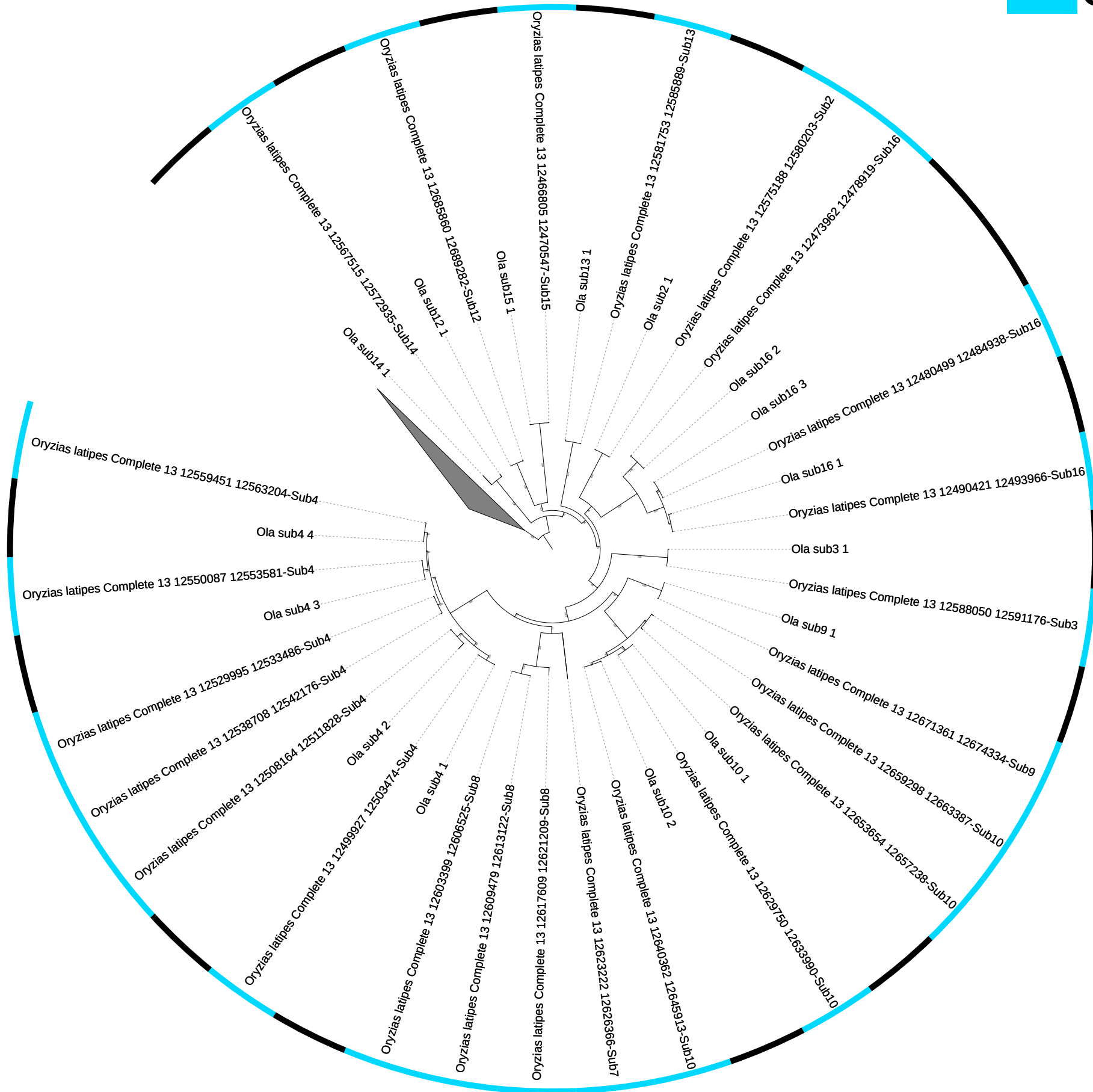
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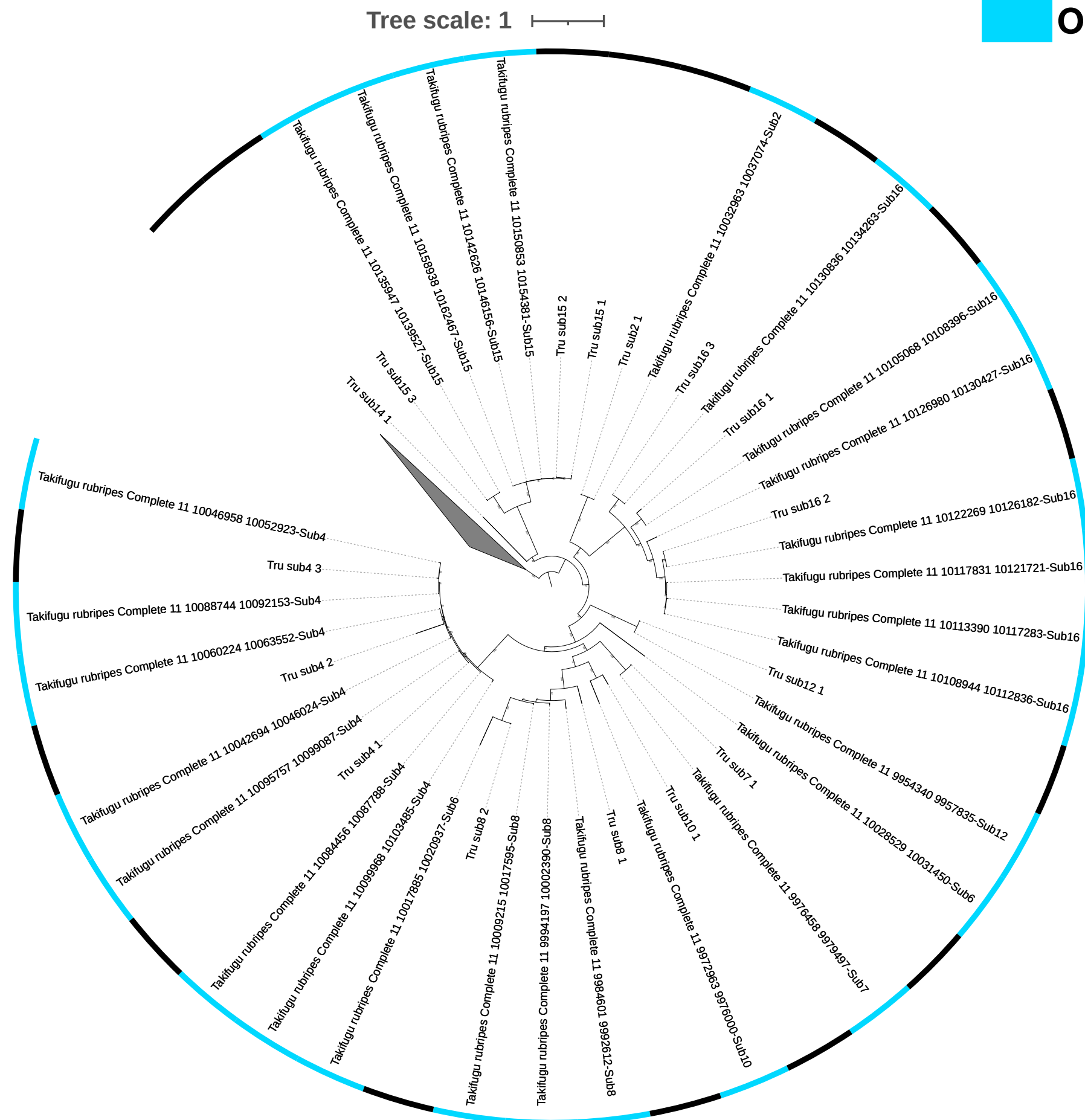
Oryzias latipes - OlfC genes comparison

Yang et al. 2019

Our study

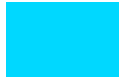
Tree scale: 1

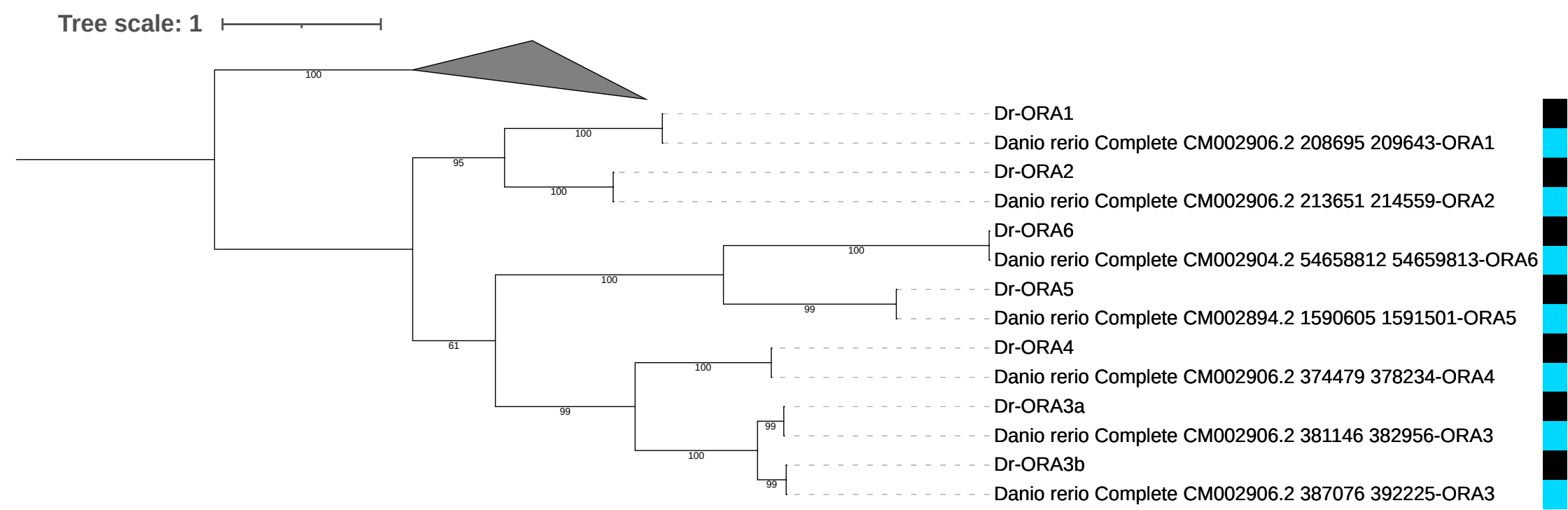




L *Danio rerio* - ORA genes comparison

 Zopilko and Korsching 2016

 Our study





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Query: Ga-ORA1
Target: GroupXVII:2554871-2563367 [revcomp]
Model: protein2genome:bestfit
Raw score: 1276
Query range: 0 -> 313
Target range: 4958 -> 4001

1 : MetAspLeuCysValThrIleLysGlyValSerPheLeuLeuGlnThrGlyMetGlyIleLe : 21
|||||
MetAspLeuCysValThrIleLysGlyValSerPheLeuLeuGlnThrGlyMetGlyIleLe
4958 : ATGGATCTGTGCGTCACCATCAAAGGGGTCTCCTTCCTCTGCAAACAGGCATGGGCATCTT : 4898

22 : uGlyAsnThrValValLeuLeuAlaTyrAlaGlnLeuIleTyrAlaGluProLysLeuLeuP : 42
|||||
uGlyAsnThrValValLeuLeuAlaTyrAlaGlnLeuIleTyrAlaGluProLysLeuLeuP
4897 : AGGGAACACGGTGGTGTCTGCTGGCCTACGCTCAGCTCATCTACGCCGAGCCCAAGCTCTTAC : 4835

43 : roValAspMetIleLeuCysHisLeuAlaPheAlaAsnLeuMetLeuLeuLeuThrArgCys : 62
|||||
roValAspMetIleLeuCysHisLeuAlaPheAlaAsnLeuMetLeuLeuLeuThrArgCys
4834 : CCGTGGACATGATCCTGTGCCACCTGGCCTTCGCCAACCTGATGCTGCTGCTGACCCGCTGC : 4775

63 : ValProGlnThrMetSerValPheGlyLeuArgAspLeuLeuGlyAspProGlyCysLysVa : 83
|||||
ValProGlnThrMetSerValPheGlyLeuArgAspLeuLeuGlyAspProGlyCysLysVa
4774 : GTCCCGCAGACCATGAGCGTGTTCTGGGCTGAGGGACCTGCTGGGTGACCCGGCTGCAAGGT : 4712

84 : lValIleTyrAlaTyrArgIleGlyArgAlaLeuSerValCysValThrCysMetLeuSerV : 104
|||||
lValIleTyrAlaTyrArgIleGlyArgAlaLeuSerValCysValThrCysMetLeuSerV
4711 : GGTGATCTACGCCCTACCGCATCGGCCGGGCTTTGTCTGGTCTCGCTCACCTGCATGCTCAGCG : 4649

105 : alPheGlnAlaValThrLeuAlaPro--AlaGlyProArgLeuSerArgLeuLysProAlaL : 124
||||| ||##|
alPheGlnAlaValThrLeu---Pro##AlaGlyProArgLeuSerArgLeuLysProAlaL
4648 : TCTTTCAGGCGGTGACCTTG---CCCTCGCCGGACCCCGTCTGTCTACGGTTGAAGCCCGCAC : 4590

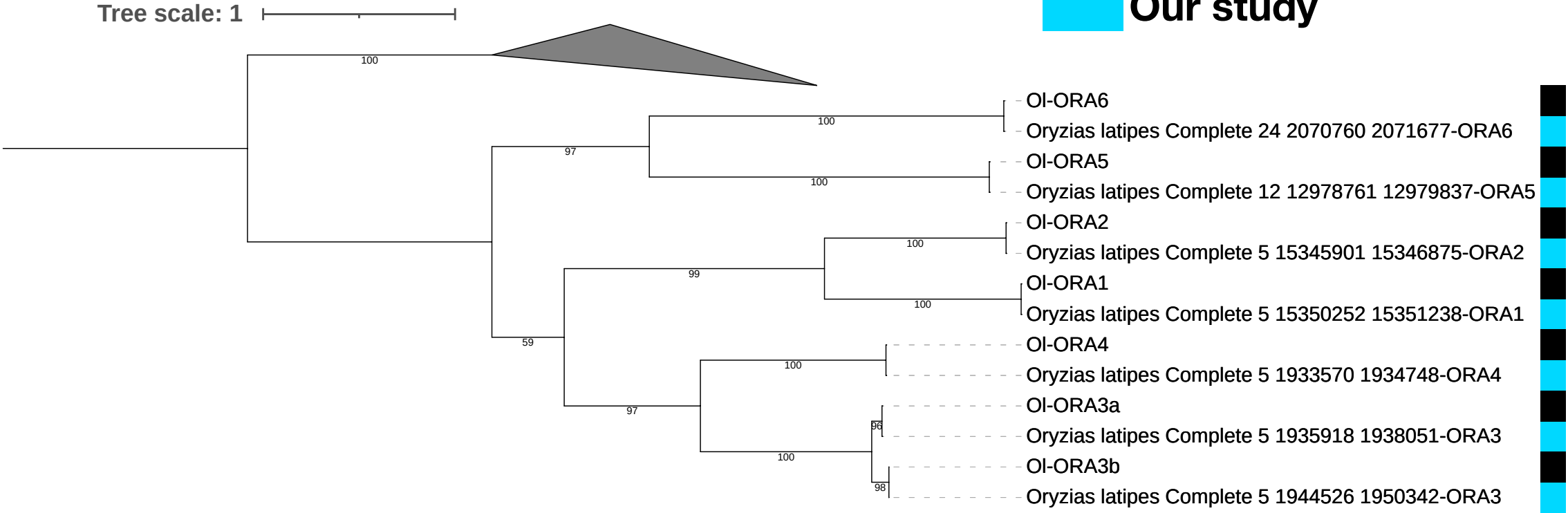
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N

Oryzias latipes - ORA genes comparison

Zapilko and Korsching 2016

Our study

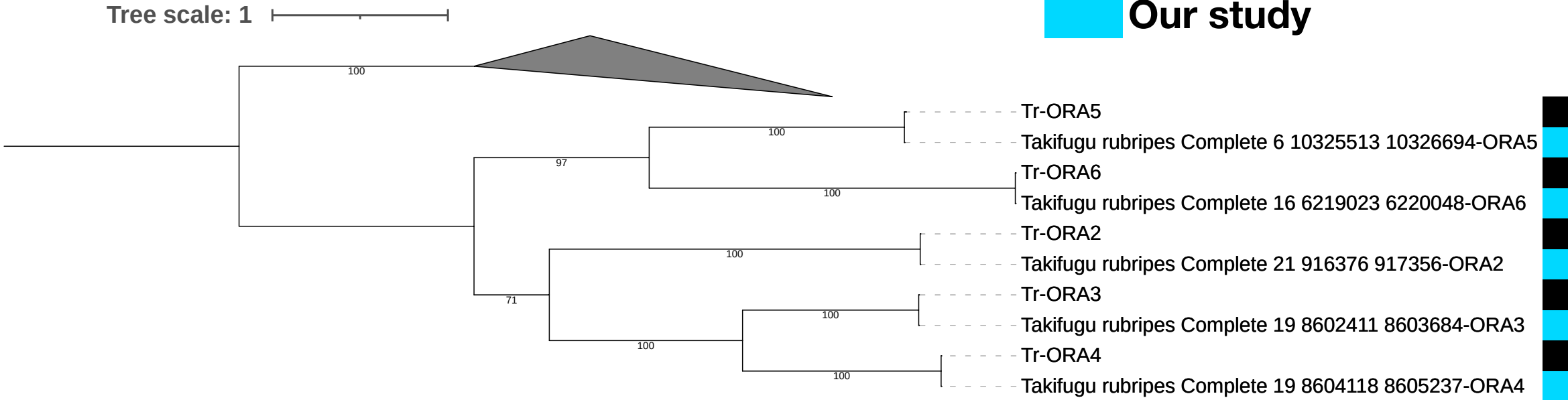


O

Takifugu rubripes - ORA genes comparison

Zapilko and Korsching 2016

Our study



P *Polypterus senegalus* - OR genes comparison

Polypterus senegalus

■ Bi X, et al. Cell 2021

■ Our study

