

[illegible]

TAS-CTAS

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H.ste -----TGGTA CA-TAAATGT ACAATGAAGG ----ATTTTC ATATACATGT ATGTAATAAC ACCATATATT TATAGTAACC [ 420]
H.hip -----
R.hip -----C..C. T.A.GT.... .A.GCA.... ----T.....T..... [ 420]
P.ste -----C.CCG ..A.GC.... .....A. ----..G..... [ 420]
V.var -----TTGCATACG ..G.GTTCA. ..G..ACGCA TGCA....T ..G.G...A. .... [ 420]
V.mos -----TTGT.T..C ..G.GT.CA. G.....G.TA TGCA....T ..G....A. .... [ 420]
Z.zeb -----TAAGCT.T. ...GCATTAA AAAT....T .-G....A. ....T.T.T. ....TA..A ...TT.... [ 420]
S.sen -----...T.TG CACT.AT--. ----T...T .G-....A. ....T..T. ....TA..C ....T.... [ 420]
P.eru TAACCATTAA TTTATATTAA CCATAACATA TATGATTTAA ATACATATAT GTATTATAAC CATTAATT.. T.T...CCA. .AC..AT--A ---TGA..T .A.....A. ....T..TA ....TA... ....T.... [ 420]
P.max -----C.C. ..C-G.T.C. CTC..ATT-A ----G.AA.T TA.....A. ....T.... ....TA..C ....T.... [ 420]
P.nov -----G T.C-..TGTC .GT..AT-- ---GC.... .AG....A. ....TA.T. ....C... ..ATT.... [ 420]
C.nud -----C..CTA TATG.AC.TA ----.GA.A TA.....A. ....T. ....C... .CATT.... [ 420]
P.flu -----TA -ATG.ACTAA ----.GA.A TAG.G...A. ....TA.T. ....C..C ..ATT.... [ 420]
P.oli -----GG..CATA TGTT.T.T.A ----.AA..A .....A. ....T. ....A. ....A. [ 420]

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H.ste ATTTTATGTA ATGTACTAGG ACATACATGT ATAATCACCA CATCTCGTAA TAGAACACTC --ATTCACCA CCATT----- --TTTAACT AAGACGA--- ----ACTAA [ 560]
H.hip .....G .....A..... .C.G..... --...T.. A..... TAG--- ---- [ 560]
R.hip .....G.... .....T A.CA.A.... .T.G..... --...T.. .....AATT-- ----G [ 560]
P.ste .....A.. ..A..... .T..... .A...T A...A.... .T.G..... --...A.. A..... TAG--- ----G [ 560]
V.var .....G .....A. ....T..... .T..A...T A...A.... .T.G..... --...A..... AGTA--- ---- [ 560]
V.mos ....C....G ....TC... ....T..... .A...T A...A...T .T.G..... --...T.. A..... C ...GTA--- ---- [ 560]
Z.zeb ....C..A.. ...C.TCCC. ....TA..TA .A.T..CA.. A.C....A.T .TA.C..T.. G-....TA. GT...AAAAC GAAGCTAGAC AAAAACCATT AAA..C..A. .TA.TA.GAC CTTTCTAAAG TATAA.TCG. [ 560]
S.sen .....A.. ...CTT.CCT ...TAC..A T.....G.. T.A....A.. .A.C..T-- --T.AC TT.ACAACAT CCA----- --AG..GG. [ 560]
P.eru ..AAC..A.. TGA.TTA.AT .....T..... .T..A.... TTAA.TTAT. .TA.C..TAA CATA.ATGAT TT.AATACAT ATATGTA--- ----TTATA ACCA.... .CCTT.T--- --AA..AT. [ 560]
P.max ....AGACCG G...C.GTCA ....TAG..A T.....GT. A.GTAT.G.G .TA...T-- ----AG. T..ACTACCG GAC-----TT.. ----GGG.AC. [ 560]
P.nov ....CC.A.G ....AACCT ....AG.AA ..G-...G.. T.ATATTA.. .T.T....--CTG..- TT.GGTACAT TTT-----AG...C. [ 560]
C.nud ....C..A.G ..A.CACCCT ...CTAG.AA -.T...AA. TTA-GT.GTG .TACC-----A... .CA.CACAG TATT-----C -----AG...C. [ 560]
P.flu ....C.A.G ....TACCCT ...TTG.AA ..T.T.AA. TTA-AT.A.C ..ACC..T--TCAT. ...C.TGTAC TTAA-----AG...C. [ 560]
P.oli ...AAG.CCG .....A.- ...C.A...G ..G-.G.A.. A.A.AT.GTG .CA....T.- --CATAT. ...GCTATAT AACT-----A. -----T---AT..A.. [ 560]

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H.ste AACC---TGA GTGATCACTA ATCTTAAATA -AGTGAAAGT CCAGGACCAG TCGAGATCT- ----- --AAGACCGA A-----CACA ACACTCATC- -AGTCGA--- -----GTTAT ACCAAGACTC AAAATCTCGC [700]

H.hip A.A..... -T..... .A....- ----- -..... -..... -..... -..... [700]

R.hip C--- C.TCA..T.C .CG...C... -T.....T. C...C..T.- ----- -..... -..... -.....C.- -G...A--- ----- T..A. [700]

P.ste -----CA. TCCCC...G .C...C..T -..C...G..C. ATG..G.... C.....T.- ----- -..... -..... -..... -.....-T [700]

V.var -----A. T.A..... .T..... -T..A...C. .T.....A A..T.- ----- -..... -.....G -...TA--- ----- [700]

V.mos -----A. C.A...T.G ..T..... -TA.....T. T.. A.CT.- ----- -..... -.....G -...A--- ----- [700]

Z.zeb ...TT--CA. C.TTCA.TA. .ATC.TC... C...C..GA. AT.CTTTG.C C.A.C....C GTCAATCTCA CC..A..AAG .TGCT-.... .T.T.T.A.T A.AGGC--- -----A..C ..TTT..T... ..C...C..T [700]

S.sen C-----TG AAACCA.TAT ..G...T..- ---.C..CT. TA.TAGAA.A CTAGT.CTAA TC-----G AT..AC.AAT .AAC--A... TTTA..CCAT A.AGT...- ---ATA... ..TTT..TC. ..C...C-TA [700]

P.eru T.G.TCCGT. AATC.T.TGT .CGG.GT... G.C.AG.GTG TA.TA.TA.A AGATT..GAT TTCAA--AA AT..AC.ATG .CACTTA.AC T.TAC.T.AA A.T.TA.GGA ATCCATAC.. C.TA [700]

P.max -----TG AATCAA.AAT .CAA...TC. CCA...T.CA GA.T-CGAG. G.A.-G..GA ----- --.AC.AAG .TCA--A.T- CA.T.AT..A TCCGTA--- ---A..... .TTT.... .CC...CTAT [700]

P.nov ..-----TT AA.C.ACAAT TGAA...CA. CCA.C.GCTG AT.T.C.A.A A.A.TGG.GC ----- --.CTTAAG .CCT--A... CT.A.AT.TA AGAGTT--- ---A..... ..G..A... ..T.ATC.-T [700]

C.nud G-----T. .AACC---AT ..TACT.T.G ACAAT.C.TA A.TCAG.T.C .TTG..CTAG CG----- --.TTTTC. .CTCG-A..T TACT..C..A TG.GTT--- ---A..... ..C.ATC.TG [700]

P.flu ..-----T. AA.C---AT ..A..GC.G. ATAAC...CA AAGCAC...- ---A.CTAG CG----- --.ATTTA. GTTTT-A..T TT.A.TTC.T TGC-.T--- ---A..... ..C.ATC.TG [700]

P.oli ...-----C. AACC---AT .AGG..T.C. ATAAAG..T. AA..ACTAG- ----- .GA ----- --.CTTTAC .CCG---AC ...AC.T..A T.TGTC--- ---A..... ..C.TCT.T [700]

	CSB-F	CSB-E	G-box	CSB-D	
H.ste	C-GAC-CTCA AAATTCTATG TA-- GTAAGA GCCTACCAAC CGG -TGATTCT CTTAATGATA ACTCTTATTG	-A GGGTGAGG GACAAAAATT -GTGGGGGTT	TCA	CTCGGTG AAT TATTCCT GGCATTGGT TCC-TACTTC	[840]
H.hip	..-...-C.. C.....				[840]
R.hip	T-C..-T.A. ...AC.A.CC C--A.....				[840]
P.ste	T-C..-A... G.TCC.....				[840]
V.var	-C.T-.AT. ..T.C.....				[840]
V.mos	-A..A.A... ..T.C.....				[840]
Z.zeb	.AT..CTCA. ..T.AA.GC. C--.....				[840]
S.sen	T-T.AATAA. .T.AA-A... CGCA.....				[840]
P.eru	G-TT.TAAA. .T.CA-G... AG--ACG... .A.C.....				[840]
P.max	T...CTCA. TCCCC-G... --.....				[840]
P.nov	G-.GTGTCA. .TCC-....				[840]
C.nud	G-A-TAAATG .TCCC.G... --.....				[840]
P.flu	G-A.TTAAG. .TTC.TA... --.....				[840]
P.oli	..-TC.CA. .TTCC-C... C--.....				[840]

	CSB-C	CSB-B	CSB-A	pyrimidine tract				
H.ste	AGGGCCAT	TG ATTGATATTA TCCCTCACAC TTTCATCGAC A	CTTACATAA GTTAATG	TTG ATAATA	CATA CGACTCGTTA CCCAGCAAGC CGGGCGTTCA	CTCCAGCGGG TAAGGGG	TTC TC--TTTTT TTTTCCTTT	[980]
H.hip	G.....	C.....	C.....	C.....	C.....	C.....	..-.....	[980]
R.hip	G.....	C.....	C.....	C.....	C.....	C.....	..-.....	[980]
P.ste	GA ..C..-G.C. CT..C.....	G.....	G.....	G.....	G.....	G.....	..-.....	[980]
V.var	T ..C.....	G.....	G.....	G.....	G.....	G.....	..-.....	[980]
V.mos	C.....	G.....	G.....	G.....	G.....	G.....	..-.....	[980]
Z.zeb	AT C..TT. G...G.....	CGT T...C-...TC.....	A.....	A.....	A.....	A.....	C.....T .TCT.....	...C.T... [980]
S.sen	.A.....AT TA.T..CC.. .T.....G A..T.CT.G.	C..G....TG AC.G...C.T T-CGAC....	A...T T.....A. C.....	A. C.....	A. C.....	A. C.....	..-T..... G.....	[980]
P.eru	...AA...GA C-.T.GT.C. .T..C..T.. G.C.C.T...	C..GG..... .C.A.T TACCA.....	TAG.C.....	...A..T..	T T.....T.	T.	..-T..... A...-.....	[980]
P.max	...T....A CC..... .T..C.C.....	G.....G.. G-..AC....	-ACT.....	..CC.....	..A.....T	...T..G... .C.A.AT-..	.T-T.....	..C..... [980]
P.nov	...T....-A CA.ATAC... C.....C.....	G.....G.. G-..C.....	C.....	..A..A..T	C....	GC.A...G.T C-.T.....		[980]
C.nud	A CT.....T...	G.....G.. G-.G.....	C.....	..A.....T	C....	GCCA...G.T CT-C.....		[980]
P.flu	A T..C..T.. ..T...	G...G.....G.. G-..C.....	A..A..T	CA...	GCCA...G.T CT-C.....	...C.T...	[980]	
P.oli	GA CC..... .T.....	G..T.....	T CT-C.....	...C.T...	[980]			
H.ste	CACTTGACTT TTCAAAGTGC ATCCAGCCAA CAGAGACGTT	TAAAGGGGGA GCACCTTTTCT TGCACGCGCC	GTACATAGTA TCCATG-TAG	GGAGTCTTTA TTAaaaaaat	AACATTAAAGT GTTATCATGT	GCATAAAGAT	[1120]	
H.hip	A.....G.....T..	G...-A T.....	...G..GG..	G..GG..	G..GG..	G..GG..	[1120]	
R.hip	A.....G.....T..AG.	-TA TA.....	...G..GG..	A...G .A.....	GA..	[1120]		
P.ste	G.A.....G.....C..A.....T..T.....T...	-A C..AA.....	...G..G..C C.....TA	..A....A..	G...	[1120]		
V.var	..TC..G.A..A..G.....G..A.....T..T.....T...G.	-A CA.....	...G..G...AG	..A.....A..	[1120]			
V.mos	..TC..G.A..A..G.....A..A.....T..T.....T...G.	T...-A TA.....	...G..G...G	..A.....A..	[1120]			
Z.zeb	G.A.....G..C..CA.G.T.CT AGTT.....--TA..A..T...C..G..-A.AAA	.A.T-.....GA...A..A AA..ATA.AC	A..G..G...TG.-...C.	A.A	T-.. [1120]			
S.sen	...C..G.A.....G.....-AC.GG..T..TTG----	AC.....A.T A..T...-C .TG.TT.CAA	.GGA.....GA...T..A AAT.ATA..G	A..G..G.G. TT...A-.C.	..A.....A	T- [1120]		
P.eru	T....G.....G.GCTAAGG TTATAGGA--AT...T..C A..T..AGTC	.TTGTAAAT AG.A.CGA.G	.TA...G.GA AA..ATAC..	C.G..G..TC C.....-G	..A....C.G	G.- [1120]		
P.max	.G..G.T.A.....C.....-GCAGGGC TT..T.TC--CT...T...A..T.C--CTG.ATTGAG	.A.A.....TA...A.CT A...G...C	GAC...G..C C...A-.C.	..A.T...C.A	G.T- [1120]			
P.nov	...C.T..A.....G.....-CTA..AC...T..AC...TA...T...-AC	.TTG.C..AG .A.ATAG..G	AAA.GTAATT A-..A.CC..	..C..T...A C...A-..A	TA.C...A.G A.....	[1120]		
C.nud	TCGC.TG.A.....C...T --AGCAG..TTA.-TTA--AT...TT..A..T.AG.T	GTTCAC.C.A .A.A.....GA...A..A AA..A..AA	C.T...-G...C...ATTA	..A....A.G A.....G.-	[1120]			
P.flu	TG.A.....G..C..-T.CTA.G GCA..CTA--AC...TT..T...-T..CTTG.C.AAA	.C.A.....GA...A..A AA..A..A	C.T...-G...T...AT.A	AA.C...A.G A.....G.-	[1120]			
P.oli	..TC..G.A.....G.....T...G. T...A.TA.-C...T...A..T...-C	.TGCCTGCAA	...A....C ..A...-A TT.A.....	CT...G...AA	..A....A..G.G. [1120]			

CSB-2

CSB-3

H.ste TTGCTCATTT CTTCTATCAT CCCCAGGATA CCCCCTTTTT TT-----GC GCGA~~AAAACC CCCC-TACCC CCCTAAAC~~CCC CTGAAGTTGC TAAGACC~~CCT GAAAACCCCC CGG~~AAACAGG [1260]
H.hip G.....-.....C.....[1260]
R.hip G....C...-.....T.....T.....[1260]
P.ste G....TG...A....C.T.....G.....GC-----G.....C.....[1260]
V.var A.....A.CT.G..T.....C-----T.....C.....T.....C..T...[1260]
V.mos A.....A...GC.T.....-.....T.....C.....C...T.....C..T...[1260]
Z.zeb G..T.T...A..C.....T..T..A...G....C..C..AACAACCTCC TCGTCTCATG ACGTTTTTT..TC.....-.....T..C.....CCT...C..T...C.....[1260]
S.sen --AA.T...T...-----C..TA.AT.--A..TGGA.A.ACGC-----CT CTCTT..CAA A.T.CCGT.A AAG---GGT T.TTTTGC.T...C CCT.C....TTTCTC.A [1260]
P.eru --CGCT..C...T-----C T..T.AC.-A.T...G.A.CGTC-----C.C.TCTG..A T...TCGT.T AAG..C..GT T.TTGC.GC.T...C CCT.C....AACTC.T.. [1260]
P.max GCTACTGC...C...CG.C T..T.A..T A...C...GC-----G.....C.....CT...T..A.G.....C..T...[1260]
P.nov --CAGT.CA..C-----C.TTT.A...A...GG...C.GC-----T.....C.....T..TA..GA.AA...C.GAT...[1260]
C.nud --T--ACAG...T-----C.T.T....G...GGG...CT-----TT...C.....T..A..GA..A...C..TT...A [1260]
P.flu --TG.ACA...T-----C.T.T.A...G...GGG...TT-----TT...C.....A.....GGA.CA...C..TT...A [1260]
P.oli GGT..TG..A A.C.A.AG...TTA...C A...C...GC-----C.....CC...T..A.G...AT CT.T..T...[1260]

H.ste ACAAACTCT G6TAGCTCAG AAAAGGCAAT TACTTTT(ATACCACCTTTTCAACCCACAAAATACCCCTGGCTTATCACAACCCACCAAGTTGTTTTAATA)x17.4 GCAAACCCACAAACGCCCTGTCACTTCTTCATGATCAAAAAA
H.hip G.....CA GGCAATTACTTTTCA(ACCACCTTTTCAACCCACAAAATACCCCTGGCTTATCATAACCCACCAAGTTGTTTTAATAAT)x12.4 CGCCGTATCACCTTCTTCATGATCAA
R.hip T.....CA GGCAATTACTTTTCA(TACTTTTCAACCCATAAATACCCCTGACCAAGATAAGCCACCAAGTTATTTAATAATGG)x20.3 GACTGGGACCTGTAACGCCGTGTC
P.ste T...T...-AT..C.....G(AACCCTAAAAATAACAGCGGTCCGCCCCAGACTTTCCATTATTACAACATATTGATTCTCAACCTGAAGCAGCGGTGACCCACCACAACTTACCAATTATTGTAATAATGTT
V.var AA.....(AACTTTTCAACCCATAAATACCACTAGTAAACCACAAGCCACCAAGTTGTTTTAATAATGG)x8.3 GCCAACCAAAACCTCCTACACGCCATCATCTCCTCATGGTCAAAAAACTGG
V.mos A.....G..A.....CA..(GTACTTTTCAACCCATAAATATCACTAATCAACCATAAGCTCACCAGTTGTTTTAATAATG)x13.3GACAACCAAAACCTTCTACACACCATCATCTCCTCGTG
Z.zeb -.G.....AAG.AT.TTC..C-----TCCTCCAAAACAAATGTAATTTATAATATTACATTATTAATAAATCAAAATTTCCACTACTAACCCTGGACCTTTTTTCTCCTACCACATTTTATGCTGACTAAGTAA
S.sen -.GGT.CT..-----TTA TTTCT...A CCCCCCGGCAACAGAAAAACCCCTGAAAAAAGAGATTGCGGATTACCCCCGAGGATTATAAATGATTCTCATTTTAAACCTCCTCC(ACAAGCTAAG)x8 AGCAATGCTATATTA
P.eru G..TG--T..A-----TGA..TCTTA-.TA CTCTTAAAAACACAAACAGCCCTAGAAACTCACTTTAGCTGCGCATCTCTAGGACTATAGTATTGAACATATTATTACTGTACATTATATCATTTGTAATATTATA(GTAATGCAAC)
P.max -.G..C..A-----GTA GTTTTT-.T. CTGA-.ACC. TATACGTATCTCGCCCTAACATAGTATAGAGTTTACTGT(TTATATACAGTA)x61.4 CAACTAGA(ATACAACCTAGA)x6.4 GCAC
P.nov -.G.....A-----T.A GTTTAC-.CC C.AA-.A TGACATGTCACTGATTGTACACCAACATTTCTGTAAATGCTGACCGTCACATGTCATTGA(TATTGTG)x6 TCT(TAT A.CA)x39.3 GGATTAAATACCAAAAAAT
C.nud -.-----A-----T.A GTTTATGGCC..(TAACAATATTATCATAT)x7 CAAAAA
P.flu -.G..C..AT-----TGA GTTTTTTG(TATTATGATATATTGTAATACAATATATTGTAATACAATATATTGCACCTACAGTGCATTGTCCGTACCGCTGCCGTACCCATAACGTACCAGCCCTCACAAG
P.oli -.-----C.G AAGCA(TCTCACTCTTCATCTCACCCTAACATGGGTTAGACTTACCCTCAACCTTTCCCCATTTAATGA)x5.4 AACCAACCATGAACCCCTTATTGAACAAACCTGCTACTTTCCTAAAGTCAAAATATGGCTATT

H.ste CTGCTGTTTAGATTATTTCAAGTATTCCTTTACCACCCTAACTACGGAAGGCACAAAACAAATCCAAGAAAAGTCTCCATTCAAATACCTTTTTTTAACCAGATAGACCCTTAAATCCTCCTGAAAACCAAGCCTTTTAACGCCCAAAGG
 H.hip AAAACTATAAAACCCACAAACTGTTTAGATTATTTCAAGTATTCCTTTACCACCCTAACTACGAAAGGCATAAAACAGAATCCAAGAAAAGTCTCCATCCAAAACATCTTTTTTAACCAGTAAGCCCTTAAGTCCCCCTGAGAACCAGC
 R.hip ATCTTCTTCATGATCAAAAACTACTGTTTAGATTATTTCAAGTATTTCTGGCATCATCCAACTACGAAGGGCACAGAACAAAACCGAGAAGACTTTGCTCTCCATTCAAAAACATCTTTTTTTAACCAGACAAGCCCTTAACCAACCT
 P.ste AATTTTT) x3.2 ACACACCCCCCCCCGCACTCCAACATATCGCCCCCTTCATGTTCAAAATACTATTATTTAGATTATTTCAAGTATTTCCAACACCACCCCAACTTCGGGAGGTGTAAAACAAAACCTCAAGGAACTACACTACTTGTAGGC
 V.var TGTTTGGATTATTTCAAGCATCTCTTACATTACTACTACTACAAAAGACAGTGACTTTGCCCTACACCAAAACATCTTTAATTAACAAGTCCTCTAATCCTGCTACCAAGAACTAACCTTTTCCTACCTCAAAAAACCTCCCATGACAGCTCA
 V.mos TCAGAAAAGTAGTGTGGATTATTTCAAGCATCCCTTACACTACCACTACCACAAAAGACAGTGACTTTACCCTACACCAAAACATCTTTAATTAACAAGTCCTCTAATCCTACGAGGACTAACCTTTTCTTACCTCAGAAAGCCTCCTATG
 Z.zeb TTTAAACCATATATAAAACACCTATTTTTCACTTTAATATATTATTTAAATTATGCG
 S.sen TAGTATTTCAATACCAACATTATAATATTACAGTATTACAGCACATGTT
 P.eru x23.3 ATTTAATCAGCACTACTGAGTATTTACACTACTTAAATACCCAGCCGCCGACTGAAACTGCCCGCACAGGACAACCTCCACCACCAAAATATTCTAAAT
 P.max
 P.nov CTAGCTGCAAAAACA
 C.nud
 P fla ACACTGTATTTAAATACATCA)x2.9 CAACCACAAG
 P.oli CCATCATTTCAGACACCTCCACATCCCACCTCCTGCATGACACAAAAGCTAAAGAACACAAAAACCAACAGTATAAGATATTCAACAAGAGACACACACCTTCCCCACCCCTTACAAGGACTGCATGACAATGTGTCAAT

H.ste CTAAACACAAACAAAGTACCACCTCTAGATGTGGCTAGAAAATTTACT
 H.hip CTTTTACCGCCCCAAAGGCTAAACACAAACAACTACCACCTCTAGGTGTGTTTAGAAAATTTACT
 R.hip TCTATTATCCTAAACTTGACAAGACTAGGGAACACCTTTTGGTGTAACAGATATTTAACT
 P.ste ATGAACCAGACTCGCCCTAAAGCCAGCACCCCAATAGGGAGTAACGCCGGGATATTTACCT
 V.var AAAGTACGCTCTGAGTCAAAATATTTAGCC
 V.mos AGAGCTCAAGACTAGCGCCTGGGTCAAGTTAAATATTTAACCC
 Z.zeb
 S.sen.
 P.eru.
 P.max.
 P.nov
 C.nud
 P fla
 P.oli

H.ste: *Hippoglossus stenolepis* ; H.hip: *Hippoglossus hippoglossus* ; R.hip: *Reinhardtius hippoglossoides* ; P.ste: *Platichthys stellatus*; V.var: *Verasper variegatus* ; V.mos: *Verasper moseri* ; Z.zeb: *Zebria zebrinus* ; S.sen: *Solea senegalensis* ; Peru: *Psettodes erumei* ; P.max: *Scophthalmus maximus* ; P.nov *Peltorhamphus novaezeelandiae*; ; C.nud: *Colistium nudipinnis*; P fla: *Pelotretis flavilatus* ; P.oli: *Paralichthys olivaceus*