Gulf Selected Samples prediction using all regions training set,
Learning with all classes present in the selected samples, with extra regional training categories,
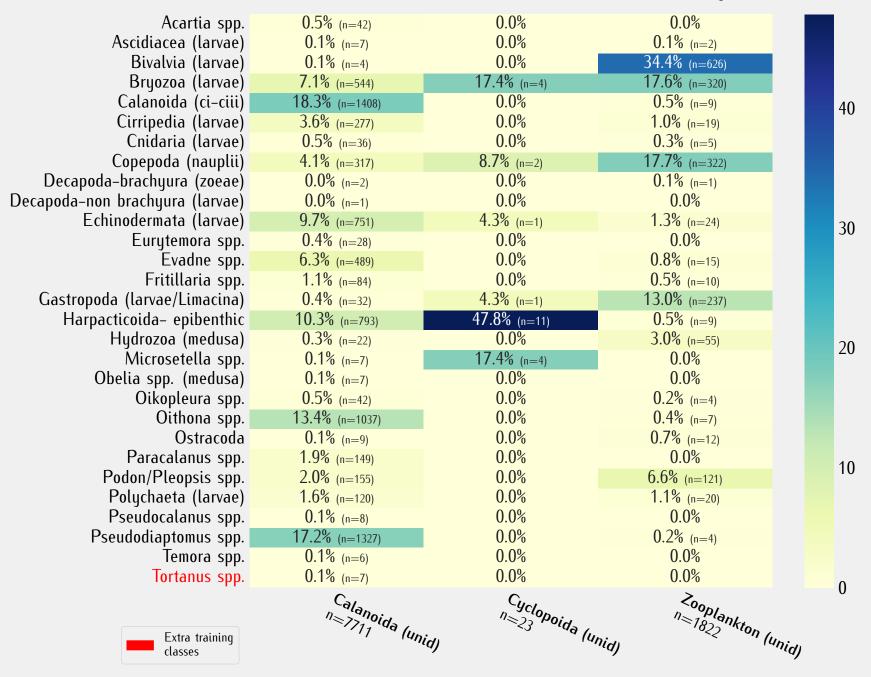No Calanoida, Cyclopoida, Zooplankton classes in learning set

Use of SCN features: No
Max learning objects: 200 objects/class
Strategy N° 6

Confusion Matrix - In percent of Actual Value

Actual Values / Predicted Values

Actual \ Predicted	Acartia spp.	Bivalvia (larvae)	Copepoda (nauplii)	Podon/Pleopsis spp.	Oithona spp.	Calanoida (ci-ciii)	Pseudodiaptomus spp.	Hydrozoa (medusa)	Gastropoda (larvae/Limacina)	Temora spp.	Bryozoa (larvae)	Polychaeta (larvae)	Ascidiacea (larvae)	Harpacticoida- epibenthic	Centropages spp.	Echinodermata (larvae)	Obelia spp. (medusa)	Evadne spp.	Cirripedia (larvae)	Chaetognatha	Pseudocalanus spp.	Cnidaria (larvae)	Decapoda-non brachyura (larvae)	Fritillaria spp.	Oikopleura spp.	Monstrillidae	Decapoda-brachyura (zoeae)	Osteichthyes (larvae)	Ostracoda	Paracalanus spp.	Microsetella spp.	Eurytemora spp.	Calanus spp.	Labidocera spp.	Tortanus spp.
Acartia spp.	18%		<1%	<1%	34%	5%	4%	<1%	<1%	<1%	<1%	<1%	<1%	5%	2%	1%	<1%	2%	<1%		<1%	<1%	<1%	<1%	<1%	<1%	<1%			<1%	11%		11%		2%
Bivalvia (larvae)		91%	1%	<1%	<1%	<1%	<1%	1%	5%		<1%	<1%	<1%		<1%		<1%	<1%						<1%			<1%			<1%					
Copepoda (nauplii)	4%		84%	<1%		<1%	<1%		<1%	7%		<1%	4%			<1%					<1%	<1%													
Podon/Pleopsis spp.	6%	18%	42%	<1%	<1%	<1%	2%	16%		11%	<1%		<1%	<1%	<1%		<1%	<1%			<1%	<1%			<1%	<1%			<1%	<1%			<1%		
Oithona spp.	<1%		<1%		71%	3%	6%	<1%	<1%		<1%	<1%	<1%	11%		4%		2%	<1%			<1%	<1%								<1%	<1%			
Calanoida (ci-ciii)			3%	3%	10%	23%	12%	<1%	<1%		8%	3%	<1%	14%		7%		9%	5%			<1%			1%	<1%					<1%	<1%			
Pseudodiaptomus spp.	<1%		1%	<1%	16%	3%	49%		<1%		2%	1%		14%	<1%	2%		3%	3%		<1%	<1%								3%		<1%			<1%
Hydrozoa (medusa)	<1%	2%	<1%	4%	1%			67%	6%		4%	1%		<1%		<1%	3%	5%	<1%		<1%	<1%		<1%						<1%	2%		<1%		<1%
Gastropoda (larvae/Limacina)		16%	10%	8%		<1%	<1%	2%	54%		6%	2%		<1%					<1%			<1%	<1%					<1%				1%			
Temora spp.	<1%		2%	<1%	3%	2%	19%			15%	4%	2%		3%	6%	3%		7%	6%		13%	<1%					<1%				9%		4%		<1%
Bryozoa (larvae)		2%	22%	13%	<1%			7%			53%	2%			<1%							<1%			<1%	<1%					1%				
Polychaeta (larvae)	<1%	<1%	30%	5%	1%	<1%	1%		<1%	<1%	4%	21%		1%		11%	1%	6%	12%					<1%			<1%	<1%	<1%						<1%
Ascidiacea (larvae)	<1%			3%		<1%					<1%	<1%	89%	1%				<1%	<1%	1%				3%											
Harpacticoida- epibenthic	<1%		5%		12%	5%	6%				2%			51%		4%		3%	<1%		<1%	<1%		<1%						3%	4%	2%			
Centropages spp.	25%				43%						5%				2%	11%														9%		2%			2%
Echinodermata (larvae)			5%	8%	3%		3%				3%							32%			19%	24%													3%
Obelia spp. (medusa)				5%	19%		5%	10%				5%					24%	24%	5%											5%					
Evadne spp.				6%							12%							62%	12%											6%					
Cirripedia (larvae)			44%	6%				6%			6%			12%			12%											12%							
Chaetognatha				8%							8%								31%		23%	15%			15%										
Pseudocalanus spp.	29%									29%									14%										14%		14%				
Cnidaria (larvae)			29%							14%							14%			14%		29%													
Decapoda-non brachyura (larvae)																				50%						25%							25%		
Fritillaria spp.																							100%												
Oikopleura spp.																							100%												
Monstrillidae																							50%			50%									
Decapoda-brachyura (zoeae)																																	100%		
Osteichthyes (larvae)																				100%															
Ostracoda								100%																											
Paracalanus spp.																														100%					
Microsetella spp.					100%																														
Eurytemora spp.																				100%															

Extra training classes (red): Calanus spp., Labidocera spp., Tortanus spp.

Classification Report Matrix
max 200 learning objects per class

Class	precision	recall	f1-score
Acartia spp. (n=18062-train=200)	0.99	0.18	0.31
Bivalvia (larvae) (n=7955-train=200)	0.95	0.91	0.93
Copepoda (nauplii) (n=2753-train=200)	0.73	0.84	0.78
Podon/Pleopsis spp. (n=2715-train=200)	0.84	0.42	0.56
Oithona spp. (n=2572-train=200)	0.22	0.71	0.34
Calanoida (ci-ciii) (n=1348-train=200)	0.21	0.23	0.22
Pseudodiaptomus spp. (n=1059-train=200)	0.30	0.49	0.37
Hydrozoa (medusa) (n=671-train=200)	0.72	0.67	0.69
Gastropoda (larvae/Limacina) (n=629-train=200)	0.27	0.54	0.36
Temora spp. (n=308-train=200)	0.30	0.15	0.20
Bryozoa (larvae) (n=247-train=200)	0.14	0.53	0.22
Polychaeta (larvae) (n=237-train=200)	0.26	0.21	0.23
Ascidiacea (larvae) (n=194-train=200)	0.86	0.89	0.87
Harpacticoida- epibenthic (n=108-train=200)	0.03	0.51	0.07
Centropages spp. (n=44-train=200)	0.02	0.11	0.03
Echinodermata (larvae) (n=37-train=200)	0.02	0.32	0.04
Obelia spp. (medusa) (n=21-train=200)	0.04	0.24	0.08
Evadne spp. (n=16-train=200)	0.02	0.62	0.03
Cirripedia (larvae) (n=16-train=200)	0.01	0.12	0.01
Chaetognatha (n=13-train=89)	0.80	0.31	0.44
Pseudocalanus spp. (n=7-train=200)	0.01	0.14	0.01
Cnidaria (larvae) (n=7-train=25)	0.06	0.29	0.10
Decapoda-non brachyura (larvae) (n=4-train=200)	0.08	0.50	0.14
Fritillaria spp. (n=3-train=200)	0.02	1.00	0.03
Oikopleura spp. (n=2-train=200)	0.00	0.00	0.00
Monstrillidae (n=2-train=27)	0.05	0.50	0.10
Decapoda-brachyura (zoeae) (n=1-train=200)	0.00	0.00	0.00
Osteichthyes (larvae) (n=1-train=45)	0.00	0.00	0.00
Ostracoda (n=1-train=25)	0.00	0.00	0.00
Paracalanus spp. (n=1-train=200)	0.00	1.00	0.00
Microsetella spp. (n=1-train=4)	0.00	0.00	0.00
Eurytemora spp. (n=1-train=200)	0.00	0.00	0.00
Calanus spp. (n=0-train=200)	–	–	–
Labidocera spp. (n=0-train=200)	–	–	–
Tortanus spp. (n=0-train=200)	–	–	–
macro avg (corr)	0.25	0.39	0.22
weighted avg	0.82	0.46	0.49

Predictions of discarded taxa from training

Predicted Taxa	Calanoida (unid) n=7711	Cyclopoida (unid) n=23	Zooplankton (unid) n=1822
Acartia spp.	0.5% (n=42)	0.0%	0.0%
Ascidiacea (larvae)	0.1% (n=7)	0.0%	0.1% (n=2)
Bivalvia (larvae)	0.1% (n=4)	0.0%	34.4% (n=626)
Bryozoa (larvae)	7.1% (n=544)	17.4% (n=4)	17.6% (n=320)
Calanoida (ci-ciii)	18.3% (n=1408)	0.0%	0.5% (n=9)
Cirripedia (larvae)	3.6% (n=277)	0.0%	1.0% (n=19)
Cnidaria (larvae)	0.5% (n=36)	0.0%	0.3% (n=5)
Copepoda (nauplii)	4.1% (n=317)	8.7% (n=2)	17.7% (n=322)
Decapoda-brachyura (zoeae)	0.0% (n=2)	0.0%	0.1% (n=1)
Decapoda-non brachyura (larvae)	0.0% (n=1)	0.0%	0.0%
Echinodermata (larvae)	9.7% (n=751)	4.3% (n=1)	1.3% (n=24)
Eurytemora spp.	0.4% (n=28)	0.0%	0.0%
Evadne spp.	6.3% (n=489)	0.0%	0.8% (n=15)
Fritillaria spp.	1.1% (n=84)	0.0%	0.5% (n=10)
Gastropoda (larvae/Limacina)	0.4% (n=32)	4.3% (n=1)	13.0% (n=237)
Harpacticoida- epibenthic	10.3% (n=793)	47.8% (n=11)	0.5% (n=9)
Hydrozoa (medusa)	0.3% (n=22)	0.0%	3.0% (n=55)
Microsetella spp.	0.1% (n=7)	17.4% (n=4)	0.0%
Obelia spp. (medusa)	0.1% (n=7)	0.0%	0.0%
Oikopleura spp.	0.5% (n=42)	0.0%	0.2% (n=4)
Oithona spp.	13.4% (n=1037)	0.0%	0.4% (n=7)
Ostracoda	0.1% (n=9)	0.0%	0.7% (n=12)
Paracalanus spp.	1.9% (n=149)	0.0%	0.0%
Podon/Pleopsis spp.	2.0% (n=155)	0.0%	6.6% (n=121)
Polychaeta (larvae)	1.6% (n=120)	0.0%	1.1% (n=20)
Pseudocalanus spp.	0.1% (n=8)	0.0%	0.0%
Pseudodiaptomus spp.	17.2% (n=1327)	0.0%	0.2% (n=4)
Temora spp.	0.1% (n=6)	0.0%	0.0%
Tortanus spp.	0.1% (n=7)	0.0%	0.0%

Extra training classes

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample

Most abundant classes (In Val or Pred)
- Acartia spp.
- Bivalvia (larvae)
- Calanoida (ci–ciii)
- Calanoida (unid)
- Copepoda (nauplii)
- Gastropoda (larvae/Limacina)
- Hydrozoa (medusa)
- Oithona spp.
- Podon/Pleopsis spp.
- Pseudodiaptomus spp.
- Zooplankton (unid)
- Others