NL 2020 Selected Samples prediction using all regions training set,
Learning with selected samples classes with no low global training instances, with extra regional training categories,
No Anthoathecata, Calanoida, Copepoda, Zooplankton classes in learning set

Use of SCN features: Yes
Max learning objects: 200 objects/class
Strategy N° 8

Confusion Matrix – In percent of Actual Value

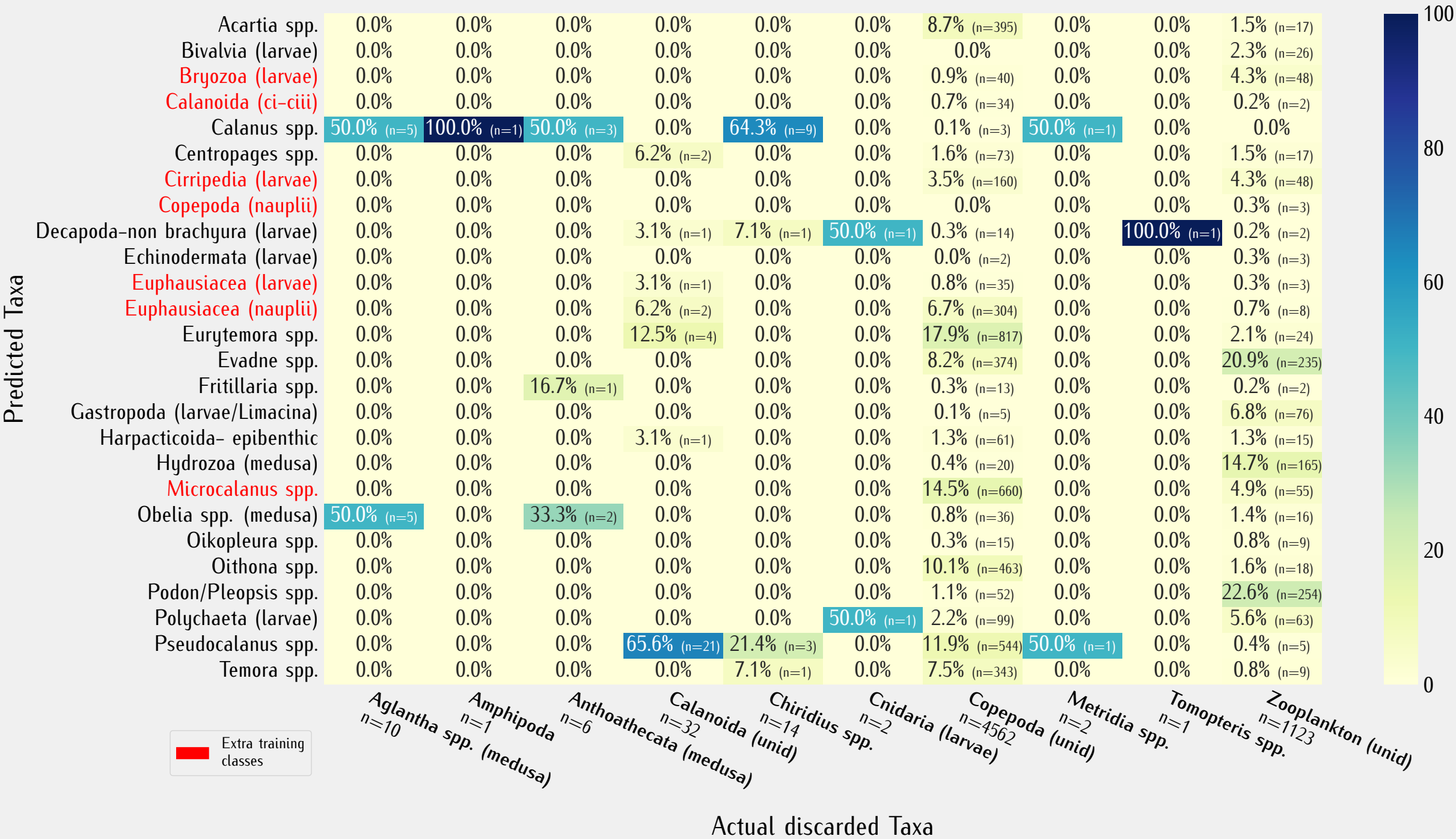| Actual Values ↓ / Predicted →	Temora spp.	Acartia spp.	Evadne spp.	Pseudocalanus spp.	Centropages spp.	Podon/Pleopsis spp.	Eurytemora spp.	Gastropoda (larvae/Limacina)	Oithona spp.	Bivalvia (larvae)	Oikopleura spp.	Hydrozoa (medusa)	Harpacticoida- epibenthic	Calanus spp.	Chaetognatha	Fritillaria spp.	Echinodermata (larvae)	Decapoda-non brachyura (larvae)	Obelia spp. (medusa)	Polychaeta (larvae)	Bryozoa (larvae)	Calanoida (ci-ciii)	Cirripedia (larvae)	Copepoda (nauplii)	Microcalanus spp.	Euphausiacea (larvae)	Euphausiacea (nauplii)
Temora spp.	38%	6%	1%	18%	4%	<1%	15%	<1%	2%		<1%	<1%	<1%		<1%		<1%	<1%	<1%		<1%	<1%	<1%		9%	<1%	4%
Acartia spp.	13%	31%	<1%	17%	8%		14%		2%		<1%	<1%	<1%		<1%		1%	1%	<1%		<1%	<1%	<1%		3%	1%	5%
Evadne spp.	<1%		69%	<1%		5%	<1%	<1%	1%	<1%	<1%	7%	1%		<1%	<1%		<1%	<1%		2%	<1%	6%		5%		<1%
Pseudocalanus spp.	14%	12%		42%	9%		12%		<1%			<1%	<1%		2%	<1%	<1%		<1%						5%	2%	3%
Centropages spp.	2%	2%		1%	85%		<1%										7%										3%
Podon/Pleopsis spp.	12%		2%	1%		<1%	3%			<1%	<1%				16%	9%	23%	<1%			2%				25%	<1%	3%
Eurytemora spp.		9%	1%				61%		6%			<1%				1%			<1%				<1%		15%		5%
Gastropoda (larvae/Limacina)			<1%			24%		46%	6%		11%						10%	2%							<1%		
Oithona spp.		5%				3%			83%	1%		4%				1%		1%		1%							1%
Bivalvia (larvae)								15%		78%	7%																
Oikopleura spp.				1%							29%		4%	54%	7%		4%										
Hydrozoa (medusa)			2%		2%						14%		8%	2%	9%	55%	5%								5%		
Harpacticoida- epibenthic	4%	4%		28%	2%		20%				30%						2%								6%	2%	2%
Calanus spp.				4%										68%			28%										
Chaetognatha															93%										7%		
Fritillaria spp.		14%					14%			14%					43%	14%											
Echinodermata (larvae)					20%			20%		20%	20%			20%													
Decapoda-non brachyura (larvae)														50%			50%										
Obelia spp. (medusa)																		100%									
Polychaeta (larvae)				100%																							

Extra training classes

Classification Report Matrix
max 200 learning objects per class

	precision	recall	f1-score
Temora spp. (n=18103-train=200)	0.76	0.38	0.50
Acartia spp. (n=13302-train=200)	0.74	0.31	0.44
Evadne spp. (n=5228-train=200)	0.93	0.69	0.79
Pseudocalanus spp. (n=3053-train=200)	0.19	0.42	0.26
Centropages spp. (n=330-train=200)	0.12	0.85	0.21
Podon/Pleopsis spp. (n=253-train=200)	0.00	0.00	0.00
Eurytemora spp. (n=178-train=200)	0.02	0.61	0.04
Gastropoda (larvae/Limacina) (n=112-train=200)	0.57	0.46	0.51
Oithona spp. (n=98-train=200)	0.11	0.83	0.19
Bivalvia (larvae) (n=92-train=200)	0.90	0.78	0.84
Oikopleura spp. (n=70-train=200)	0.33	0.29	0.31
Hydrozoa (medusa) (n=64-train=200)	0.02	0.14	0.04
Harpacticoida- epibenthic (n=50-train=200)	0.06	0.30	0.10
Calanus spp. (n=25-train=200)	0.46	0.68	0.55
Chaetognatha (n=15-train=89)	0.27	0.93	0.42
Fritillaria spp. (n=7-train=200)	0.08	0.43	0.14
Echinodermata (larvae) (n=5-train=200)	0.00	0.00	0.00
Decapoda-non brachyura (larvae) (n=2-train=200)	0.01	0.50	0.01
Obelia spp. (medusa) (n=1-train=200)	0.00	1.00	0.01
Polychaeta (larvae) (n=1-train=200)	0.00	0.00	0.00
Bryozoa (larvae) (n=0-train=200)	–	–	–
Calanoida (ci-ciii) (n=0-train=200)	–	–	–
Cirripedia (larvae) (n=0-train=200)	–	–	–
Copepoda (nauplii) (n=0-train=200)	–	–	–
Microcalanus spp. (n=0-train=80)	–	–	–
Euphausiacea (larvae) (n=0-train=87)	–	–	–
Euphausiacea (nauplii) (n=0-train=145)	–	–	–
macro avg (corr)	0.28	0.48	0.27
weighted avg	0.71	0.40	0.49

Actual Values

Predicted Values

Predictions of discarded taxa from training

Predicted Taxa	Aglantha spp. (medusa) n=10	Amphipoda n=1	Anthoathecata (medusa) n=6	Calanoida (unid) n=32	Chiridius spp. n=14	Cnidaria (larvae) n=2	Copepoda (unid) n=4562	Metridia spp. n=2	Tomopteris spp. n=1	Zooplankton (unid) n=1123
Acartia spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.7% (n=395)	0.0%	0.0%	1.5% (n=17)
Bivalvia (larvae)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3% (n=26)
Bryozoa (larvae)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9% (n=40)	0.0%	0.0%	4.3% (n=48)
Calanoida (ci-ciii)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7% (n=34)	0.0%	0.0%	0.2% (n=2)
Calanus spp.	50.0% (n=5)	100.0% (n=1)	50.0% (n=3)	0.0%	64.3% (n=9)	0.0%	0.1% (n=3)	50.0% (n=1)	0.0%	0.0%
Centropages spp.	0.0%	0.0%	0.0%	6.2% (n=2)	0.0%	0.0%	1.6% (n=73)	0.0%	0.0%	1.5% (n=17)
Cirripedia (larvae)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.5% (n=160)	0.0%	0.0%	4.3% (n=48)
Copepoda (nauplii)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3% (n=3)
Decapoda-non brachyura (larvae)	0.0%	0.0%	0.0%	3.1% (n=1)	7.1% (n=1)	50.0% (n=1)	0.3% (n=14)	0.0%	100.0% (n=1)	0.2% (n=2)
Echinodermata (larvae)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0% (n=2)	0.0%	0.0%	0.3% (n=3)
Euphausiacea (larvae)	0.0%	0.0%	0.0%	3.1% (n=1)	0.0%	0.0%	0.8% (n=35)	0.0%	0.0%	0.3% (n=3)
Euphausiacea (nauplii)	0.0%	0.0%	0.0%	6.2% (n=2)	0.0%	0.0%	6.7% (n=304)	0.0%	0.0%	0.7% (n=8)
Eurytemora spp.	0.0%	0.0%	0.0%	12.5% (n=4)	0.0%	0.0%	17.9% (n=817)	0.0%	0.0%	2.1% (n=24)
Evadne spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2% (n=374)	0.0%	0.0%	20.9% (n=235)
Fritillaria spp.	0.0%	0.0%	16.7% (n=1)	0.0%	0.0%	0.0%	0.3% (n=13)	0.0%	0.0%	0.2% (n=2)
Gastropoda (larvae/Limacina)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1% (n=5)	0.0%	0.0%	6.8% (n=76)
Harpacticoida- epibenthic	0.0%	0.0%	0.0%	3.1% (n=1)	0.0%	0.0%	1.3% (n=61)	0.0%	0.0%	1.3% (n=15)
Hydrozoa (medusa)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4% (n=20)	0.0%	0.0%	14.7% (n=165)
Microcalanus spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.5% (n=660)	0.0%	0.0%	4.9% (n=55)
Obelia spp. (medusa)	50.0% (n=5)	0.0%	33.3% (n=2)	0.0%	0.0%	0.0%	0.8% (n=36)	0.0%	0.0%	1.4% (n=16)
Oikopleura spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3% (n=15)	0.0%	0.0%	0.8% (n=9)
Oithona spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.1% (n=463)	0.0%	0.0%	1.6% (n=18)
Podon/Pleopsis spp.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1% (n=52)	0.0%	0.0%	22.6% (n=254)
Polychaeta (larvae)	0.0%	0.0%	0.0%	0.0%	0.0%	50.0% (n=1)	2.2% (n=99)	0.0%	0.0%	5.6% (n=63)
Pseudocalanus spp.	0.0%	0.0%	0.0%	65.6% (n=21)	21.4% (n=3)	0.0%	11.9% (n=544)	50.0% (n=1)	0.0%	0.4% (n=5)
Temora spp.	0.0%	0.0%	0.0%	0.0%	7.1% (n=1)	0.0%	7.5% (n=343)	0.0%	0.0%	0.8% (n=9)

Extra training classes

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample