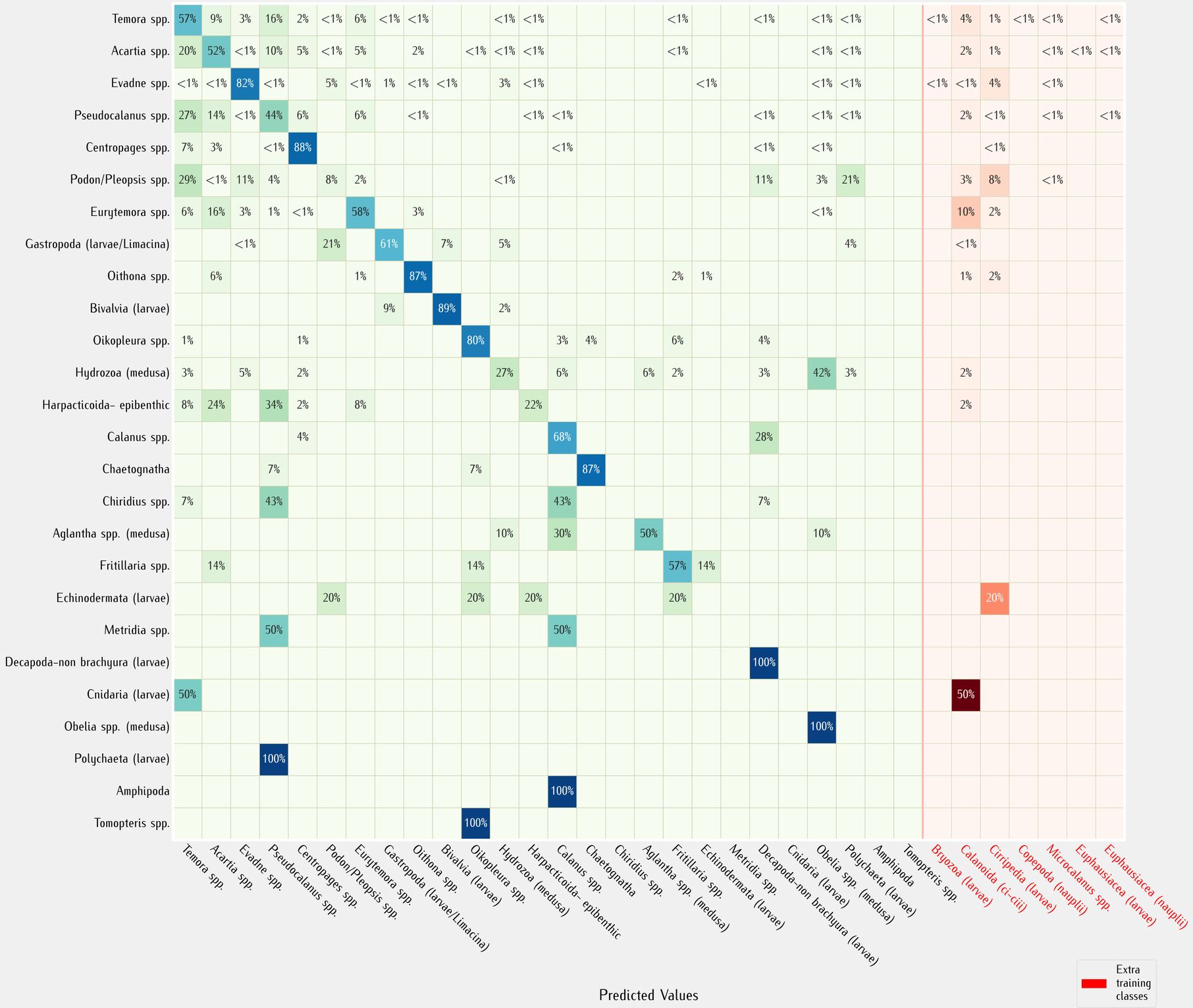
Use of SCN features: Yes
Max learning objects: 5000 objects/class
Strategy N° 6

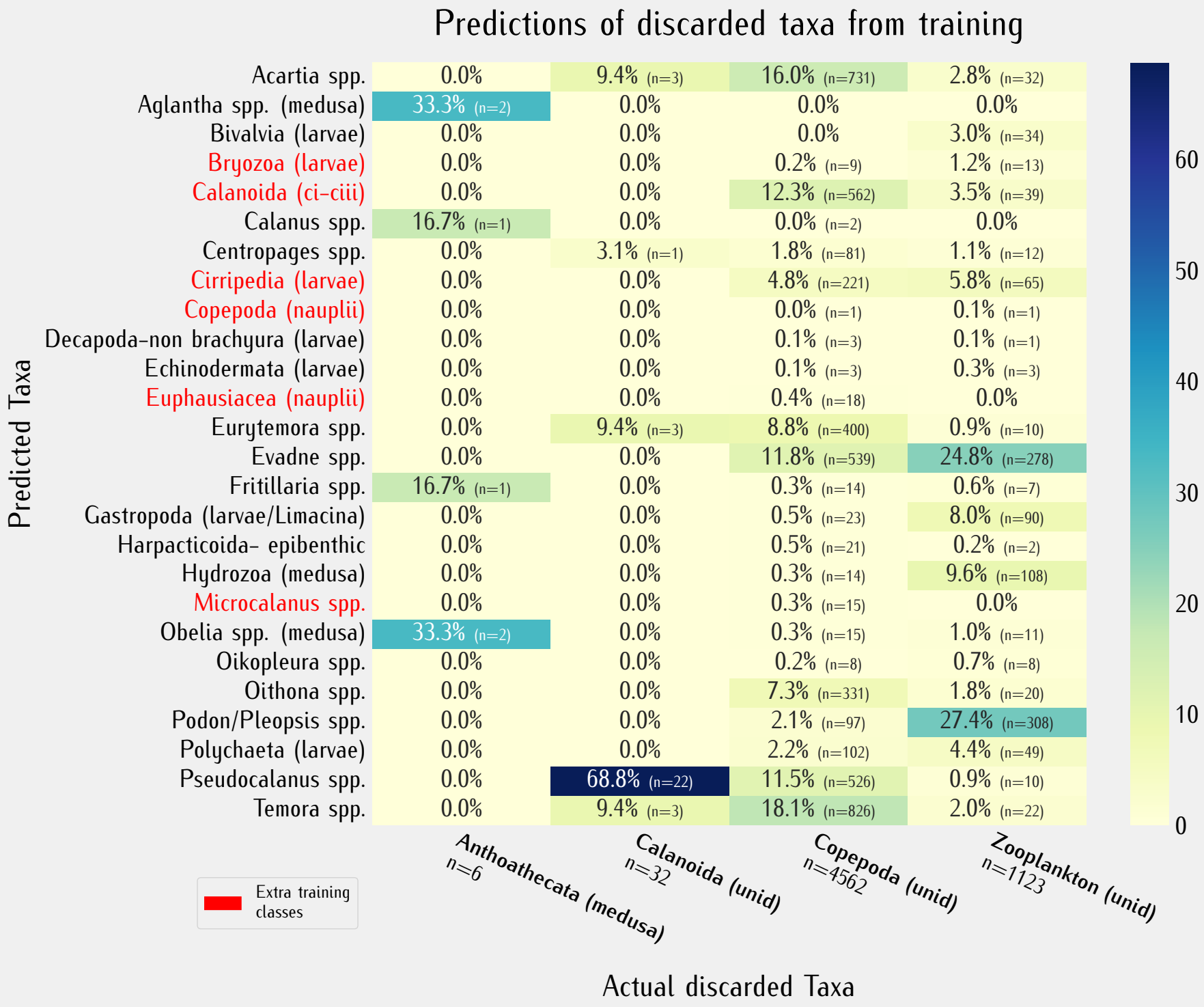
NL 2020 Selected Samples prediction using all regions training set, Learning with all classes present in the selected samples, with extra regional training categories, No Anthoathecata, Calanoida, Copepoda, Zooplankton classes in learning set

Confusion Matrix – In percent of Actual Value



Classification Report Matrix
max 5000 learning objects per class

	precision	recall	f1-score
Temora spp. (n=18103-train=5000)	0.74	0.57	0.64
Acartia spp. (n=13302-train=5000)	0.77	0.52	0.62
Evadne spp. (n=5228-train=5000)	0.87	0.82	0.84
Pseudocalanus spp. (n=3053-train=4845)	0.24	0.44	0.31
Centropages spp. (n=330-train=3620)	0.19	0.88	0.31
Podon/Pleopsis spp. (n=253-train=5000)	0.06	0.08	0.07
Eurytemora spp. (n=178-train=1818)	0.05	0.58	0.09
Gastropoda (larvae/Limacina) (n=112-train=3272)	0.46	0.61	0.53
Oithona spp. (n=98-train=5000)	0.16	0.87	0.27
Bivalvia (larvae) (n=92-train=3764)	0.90	0.89	0.90
Oikopleura spp. (n=70-train=5000)	0.71	0.80	0.75
Hydrozoa (medusa) (n=64-train=4052)	0.09	0.27	0.13
Harpacticoida- epibenthic (n=50-train=555)	0.11	0.22	0.15
Calanus spp. (n=25-train=359)	0.46	0.68	0.55
Chaetognatha (n=15-train=89)	0.81	0.87	0.84
Chiridius spp. (n=14-train=1)	0.00	0.00	0.00
Aglantha spp. (medusa) (n=10-train=22)	0.56	0.50	0.53
Fritillaria spp. (n=7-train=5000)	0.07	0.57	0.12
Echinodermata (larvae) (n=5-train=3043)	0.00	0.00	0.00
Metridia spp. (n=2-train=16)	0.00	0.00	0.00
Decapoda-non brachyura (larvae) (n=2-train=423)	0.04	1.00	0.07
Cnidaria (larvae) (n=2-train=25)	0.00	0.00	0.00
Obelia spp. (medusa) (n=1-train=1003)	0.01	1.00	0.02
Polychaeta (larvae) (n=1-train=1577)	0.00	0.00	0.00
Amphipoda (n=1-train=27)	0.00	0.00	0.00
Tomopteris spp. (n=1-train=1)	0.00	0.00	0.00
Bryozoa (larvae) (n=0-train=1142)	–	–	–
Calanoida (ci-ciii) (n=0-train=5000)	–	–	–
Cirripedia (larvae) (n=0-train=5000)	–	–	–
Copepoda (nauplii) (n=0-train=5000)	–	–	–
Microcalanus spp. (n=0-train=80)	–	–	–
Euphausiacea (larvae) (n=0-train=87)	–	–	–
Euphausiacea (nauplii) (n=0-train=145)	–	–	–
macro avg (corr)	0.28	0.47	0.30
weighted avg	0.71	0.58	0.62
	precision	recall	f1-score


Predictions of discarded taxa from training
Predicted Taxa
Acartia spp. 0.0% 9.4% (n=3) 16.0% (n=731) 2.8% (n=32)
Aglantha spp. (medusa) 33.3% (n=2) 0.0% 0.0% 0.0%
Bivalvia (larvae) 0.0% 0.0% 0.0% 3.0% (n=34)
Bryozoa (larvae) 0.0% 0.0% 0.2% (n=9) 1.2% (n=13)
Calanoida (ci-ciii) 0.0% 0.0% 12.3% (n=562) 3.5% (n=39)
Calanus spp. 16.7% (n=1) 0.0% 0.0% (n=2) 0.0%
Centropages spp. 0.0% 3.1% (n=1) 1.8% (n=81) 1.1% (n=12)
Cirripedia (larvae) 0.0% 0.0% 4.8% (n=221) 5.8% (n=65)
Copepoda (nauplii) 0.0% 0.0% 0.0% (n=1) 0.1% (n=1)
Decapoda-non brachyura (larvae) 0.0% 0.0% 0.1% (n=3) 0.1% (n=1)
Echinodermata (larvae) 0.0% 0.0% 0.1% (n=3) 0.3% (n=3)
Euphausiacea (nauplii) 0.0% 0.0% 0.4% (n=18) 0.0%
Eurytemora spp. 0.0% 9.4% (n=3) 8.8% (n=400) 0.9% (n=10)
Evadne spp. 0.0% 0.0% 11.8% (n=539) 24.8% (n=278)
Fritillaria spp. 16.7% (n=1) 0.0% 0.3% (n=14) 0.6% (n=7)
Gastropoda (larvae/Limacina) 0.0% 0.0% 0.5% (n=23) 8.0% (n=90)
Harpacticoida- epibenthic 0.0% 0.0% 0.5% (n=21) 0.2% (n=2)
Hydrozoa (medusa) 0.0% 0.0% 0.3% (n=14) 9.6% (n=108)
Microcalanus spp. 0.0% 0.0% 0.3% (n=15) 0.0%
Obelia spp. (medusa) 33.3% (n=2) 0.0% 0.3% (n=15) 1.0% (n=11)
Oikopleura spp. 0.0% 0.0% 0.2% (n=8) 0.7% (n=8)
Oithona spp. 0.0% 0.0% 7.3% (n=331) 1.8% (n=20)
Podon/Pleopsis spp. 0.0% 0.0% 2.1% (n=97) 27.4% (n=308)
Polychaeta (larvae) 0.0% 0.0% 2.2% (n=102) 4.4% (n=49)
Pseudocalanus spp. 0.0% 68.8% (n=22) 11.5% (n=526) 0.9% (n=10)
Temora spp. 0.0% 9.4% (n=3) 18.1% (n=826) 2.0% (n=22)
Anthoathecata (medusa) n=6
Calanoida (unid) n=32
Copepoda (unid) n=4562
Zooplankton (unid) n=1123
Actual discarded Taxa
Extra training classes
60
50
40
30
20
10
0

Relative Abundance of Top Taxonomic Instances per Sample

Val Pred Val Pred Val Pred Val Pred Val Pred Val Pred Val Pred Val Pred Val Pred Val Pred

1.0
0.8
0.6
0.4
0.2
0.0

Relative Abundance

S21 S22 S23 S24 S25 S26 S27 S28 S29 S30

Sample Short ID

Most abundant classes (In Val or Pred)
- Acartia spp.
- Centropages spp.
- Copepoda (unid)
- Eurytemora spp.
- Evadne spp.
- Gastropoda (larvae/Limacina)
- Oithona spp.
- Podon/Pleopsis spp.
- Pseudocalanus spp.
- Temora spp.
- Zooplankton (unid)
- Others