Use of SCN features: Yes

Max learning objects: 200 objects/class Strategy N° 2

Actual Values

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

Confusion Matrix - In percent of Actual Value

												Con	fusi	on M	1atri	x – Ir	n per	rcent	t of /	Actuá	al Value												
Temora spp.	35%	5%	1%	19%	<19	6 <1	% 2%	<1	% 4%	<1%			6%				<1%	<1%	<1%				1%			<1%	8%	3%	2%	7%	<1%	6%	
Acartia spp.	13%	34%	<1%	17%	<19	6 <1	% 2%		4%		<1%	<1%	12%				<1%	<1%	<1%		<1%	<1%	<1%				3%	1%	1%	3%	<1%	7%	
Evadne spp.	<1%	< 1%	71%	<1%	ó	89	ó	<1	% 1%	<1%									<1%				1%		<1%	6%	<1%	4%	4%	3%		<1%	
Pseudocalanus spp.	18%	12%	<19	43%	<19	6 <1	% 6%		<1%				6%	<1%			<1%	<1%	<1%	<1%		<1%	<1%				3%	<1%	<1%	5%	1%	4%	
Centropages spp.	8%	20%		<1%	43%		23%	í					<1%	<1%						<1%		<1%						<1%			1%	<1%	
Podon/Pleopsis spp.	6%		4%	<1%	ó	21	%							<1%			2%						30%					11%	8%	15%		<1%	
Eurytemora spp.	<1%	7%	1%	3%					18%				13%						1%								15%		12%	15%		13%	
Gastropoda (larvae/Limacina)			3%			34	%	369	ó	16%													7%						4%				
Oithona spp.		3%	2%						87%	L			1%					2%	3%							2%							
Bivalvia (larvae)								209	б	80%																							
Oikopleura spp.	1%	1%			1%						66%			9%	11%			10%															
Hydrozoa (medusa)			9%			39	8 3%				2%	5%		3%			42%	2%				20%						9%		2%			
Harpacticoida- epibenthic	2%	2%		10%			2%		4%				62%														2%		2%	8%	2%	4%	
Calanus spp.					4%		4%							92%																			
Chaetognatha															80%									13%							7%		
Chiridius spp.	14%			21%										57%														7%					
Aglantha spp. (medusa)												10%					70%					20%											
Fritillaria spp.				14%					14%		14%							43%	14%														
Echinodermata (larvae)						20	%		40%									20%	20%														
Metridia spp.				50%										50%																			
Decapoda-non brachyura (larvae)														100%																			
Cnidaria (larvae)				50%																									50%				
Obelia spp. (medusa)																						100%											
Polychaeta (larvae)				100%	ó																												
Amphipoda														100%																			
Tomopteris spp.		A		Δ.	1009					<i> </i>		٨,	٨,				A	<b>^</b>	<u> </u>	1.			Δ	A	<i>&gt;</i>	$\triangleright$		<b>O</b> .		1-	<u> </u>	<b>^</b>	
	CI	Ora Spp.	7710 SPD.	Odno Se	Aldocal.	tropo	Odon/pled	Weno,	Stropoda Spp.	sona so	Oikop.	Leur Co	Tarpe Soa	Calan	The Sa	Chirio Chirio	. Tolan	Titilly and the state of the st	y Chil	. Noter	idia spoda	, bel		Amphi haer	iood on of	Oteris St.	Calal Calan	Poido irrip	edia Pex	Micro	Calar	Sausia de	usia.
		<i>.</i> %	<i>%</i>	Poline Spp.	(0)	7U5 50/	Odon/Pleo,	05/5 %		lande.	Oikopi Via (larra	Hydro Heyro Sp.	o me	Old Sal	Pik	Chiride Chiride Chiride Chiride Chiride Chiride Chirice Chirice Chirice Chirice Chirice Chirice Chirice Chirice Chirice Chirical Chirice Chirical C	Aglan Mius Spp.	1/2	men	not	Decapoda no	brace	Polye, Spp. (1)	nedy,	erde,	3%	So an	de) (c)	Pedia (la)	vae)	uplin	Supha Spp.	Pusiacea (nauplii)
						,				~	inacina				.06	Thic			YUS	(a)	de	Ny	Mara (la	39/									des Pliis
											<b>9</b> )												47	Poj									tra
															F	Predic	cted \	Value	es														nining asses

## Classification Report Matrix max 200 learning objects per class

m	ıax 200 lea	rning obje	cts per clas	S
	precision	recall	f1-score	
Temora spp. (n=18103-train=200)	0.73	0.35	0.47	
Acartia spp. (n=13302-train=200)	0.78	0.34	0.47	
<b>Evadne spp.</b> (n=5228-train=200)	0.93	0.71	0.81	
Pseudocalanus spp. (n=3053-train=200)	0.19	0.43	0.26	
Centropages spp. (n=330-train=40)	0.82	0.43	0.57	
Podon/Pleopsis spp. (n=253-train=200)	0.10	0.21	0.13	1
Eurytemora spp. (n=178-train=88)	0.00	0.00	0.00	•
Gastropoda (larvae/Limacina) (n=112-train=110)	0.44	0.36	0.39	
Oithona spp. (n=98-train=200)	0.06	0.87	0.11	
Bivalvia (larvae) (n=92-train=71)	0.70	0.80	0.75	
Oikopleura spp. (n=70-train=200)	0.88	0.66	0.75	0
<b>Hydrozoa (medusa)</b> (n=64-train=21)	0.60	0.05	0.09	
Harpacticoida- epibenthic (n=50-train=136)	0.01	0.62	0.02	
Calanus spp. (n=25-train=200)	0.48	0.92	0.63	
<b>Chaetognatha</b> (n=15-train=67)	0.60	0.80	0.69	
<b>Chiridius spp.</b> (n=14-train=1)	0.00	0.00	0.00	0
Aglantha spp. (medusa) (n=10-train=21)	0.09	0.70	0.16	
Fritillaria spp. (n=7-train=200)	0.03	0.43	0.05	
Echinodermata (larvae) (n=5-train=200)	0.01	0.20	0.01	
<b>Metridia spp.</b> (n=2-train=15)	0.00	0.00	0.00	0
ecapoda-non brachyura (larvae) (n=2-train=7)	0.00	0.00	0.00	
Cnidaria (larvae) (n=2-train=3)	0.00	0.00	0.00	
Obelia spp. (medusa) (n=1-train=43)	0.03	1.00	0.06	
Polychaeta (larvae) (n=1-train=200)	0.00	0.00	0.00	
Amphipoda (n=1-train=1)	0.00	0.00	0.00	C
Tomopteris spp. (n=1-train=1)	0.00	0.00	0.00	
<b>Bryozoa (larvae)</b> (n=0-train=119)	-	-	-	
Calanoida (ci-ciii) (n=0-train=200)	-	-	-	
Cirripedia (larvae) (n=0-train=200)	-	-	-	
Copepoda (nauplii) (n=0-train=200)	-	-	-	0
Microcalanus spp. (n=0-train=80)	-	-	-	
Euphausiacea (larvae) (n=0-train=75)	-	-	-	
Euphausiacea (nauplii) (n=0-train=122)	-	-	-	
macro avg (corr)	0.29	0.38	0.25	
weighted avg	0.72	0.40	0.49	
	precision	recall	f1-score	

## Predictions of discarded taxa from training 50 0.0% 5.7% (n=262) 0.0% 2.0% (n=22) Acartia spp. 33.3% (n=2) 0.0% 0.0% Aglantha spp. (medusa) 0.2% (n=2) 0.0% Bivalvia (larvae) 0.0% 0.0% 8.5% (n=95) 0.0% 0.0% 1.0% (n=46) Bryozoa (larvae) 8.8% (n=99) Calanoida (ci-ciii) 0.0% 0.0% 8.6% (n=391) 1.2% (n=13) Calanus spp. 16.7% (n=1) 0.0% 0.0% (n=2) 0.0% 40 Centropages spp. 0.0% 0.0% 0.1% (n=3) 0.1% (n=1) 0.0% 0.0% 4.2% (n=190) 2.1% (n=24) Cirripedia (larvae) 0.0% 0.0% 9.1% (n=415) 4.2% (n=47) Copepoda (nauplii) 0.0% 0.0% 1.5% (n=17) Echinodermata (larvae) 0.8% (n=38) 0.0% 3.1% (n=1) 0.6% (n=27) 0.2% (n=2) Euphausiacea (larvae) 30 **Predicted Taxa** 0.7% (n=8) 0.0% 6.2% (n=2) Euphausiacea (nauplii) 6.8% (n=310) 0.0% 6.2% (n=2) Eurytemora spp. 1.2% (n=55) 0.4% (n=5) 20.4% (n=229) Evadne spp. 0.0% 0.0% 6.9% (n=317) 0.0% 0.0% 0.5% (n=22) Fritillaria spp. 0.7% (n=8) 0.0% 0.0% 7.1% (n=80) Gastropoda (larvae/Limacina) 0.2% (n=7) 20 Harpacticoida- epibenthic 0.0% 18.8% (n=6) 7.1% (n=322) 1.2% (n=13) 0.0% 0.0% 0.0% Hydrozoa (medusa) 0.1% (n=1) 0.0% 0.0% 2.4% (n=27) Microcalanus spp. 10.3% (n=469) 0.0% Obelia spp. (medusa) 33.3% (n=2) 0.0% (n=1) 0.3% (n=3) 0.0% Oikopleura spp. 16.7% (n=1) 0.0% (n=2) 0.4% (n=5) 0.0% 0.0% 13.7% (n=627) 2.2% (n=25) Oithona spp. 10 0.0% 0.0% Podon/Pleopsis spp. 1.6% (n=71) 28.7% (n=322) 0.0% 0.0% 2.3% (n=103) 5.4% (n=61) Polychaeta (larvae) 50.0% (n=16) Pseudocalanus spp. 0.0% 12.7% (n=579) 0.4% (n=5) Temora spp. 0.0% 15.6% (n=5) 0.7% (n=8) 6.6% (n=303) Tomopteris spp. 0.0% 0.0% 0.0% 0.1% (n=1) 0 Anthoathecata (medusa) Calanoida (unid) Zooplankton (unid) Copepoda (unid) n=4562 Extra training classes

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample



