Use of SCN features: Yes Max learning objects: 5000 objects/class Strategy N° 5

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

Confusion Matrix - In percent of Actual Value

| | | | | | | | | | | | | , ra tr tr | | | | | | | | | | | | | |
|---------------------------------|--------|--------------|------|------------------|---------------------|----------------------|-------------------|--------------|--------------|------------------|--------------------|-------------|--------------|---------------------------|----------------------------|-----------------|--------------|----------------------|--------------|--------------------|--------|-----------------------|----------------------------|---------------------|--------------------|
| Temora spp. | 59% | 10% | 3% | 16% | 3% | <1% | 6% | <1% | 1% | | | <1% | <1% | | | | | <1% | | | <1% | | <1% | <1% | |
| Acartia spp. | 21% | 53% | 2% | 10% | 6% | <1% | 5% | | 2% | | <1% | | <1% | | | | | <1% | | | | | <1% | <1% | |
| Evadne spp. | 2% | <1% | 86% | <1% | | 6% | <1% | 1% | <1% | <1% | | 3% | <1% | | | | | | <1% | | | | <1% | <1% | |
| Pseudocalanus spp. | 27% | 14% | <1% | 45% | 7% | <1% | 6% | | <1% | | | | <1% | <1% | | | | | | | <1% | | <1% | <1% | |
| Centropages spp. | 6% | 2% | | 2% | 88% | | | | | | | | | <1% | | | | | | | 1% | | | | |
| Podon/Pleopsis spp. | 30% | <1% | 9% | 3% | | 14% | 4% | | | | | <1% | <1% | | | | | | | | 10% | | 4% | 25% | |
| Eurytemora spp. | 6% | 15% | 5% | <1% | | <1% | 68% | | 4% | | | | <1% | | | | | | | | | | | | |
| Gastropoda (larvae/Limacina) | | | <1% | | | 26% | | 60% | | 7% | | 4% | | | | | | | | | | | | 2% | |
| Oithona spp. | | 6% | 1% | | | | 1% | | 87% | | | | 1% | | | | | 2% | 1% | | | | 1% | | |
| Bivalvia (larvae) | | | | | | | | 8% | | 90% | | 2% | | | | | | | | | | | | | |
| Oikopleura spp. | | | | | 1% | | | | | | 80% | | | 4% | 4% | | | 6% | | | 4% | | | | |
| Hydrozoa (medusa) | 3% | | 5% | | 2% | 2% | | | | | | 28% | | 5% | | | 5% | 2% | | | 3% | | 44% | 3% | |
| Harpacticoida- epibenthic | 8% | 18% | | 30% | 2% | | 10% | | | | | | 30% | | | | | | | | | | | 2% | |
| Calanus spp. | | | | | 4% | | | | | | | | | 68% | | | | | | | 28% | | | | |
| Chaetognatha | | | | 7% | | | | | | | 20% | | | | 73% | | | | | | | | | | |
| Chiridius spp. | 7% | | | 43% | | | | | | | | | | 43% | | | | | | | 7% | | | | |
| Aglantha spp. (medusa) | | | | | | | | | | | | 20% | | 10% | | | 50% | | | | | | 20% | | |
| Fritillaria spp. | | | | | | | | | | | 14% | | | | | | | 71% | 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% | | | | | | | | | | | | | | | | | | | | | |
| Amphipoda | | | | | | | | | | | | | | 100% | | | | | | | | | | | |
| Tomopteris spp. | | | | | | | | | | | 100% | | | | | | | | | | | | | | |
| | Temoro | Acarte, Spp. | Spp. | PSelloto SPD: | Centro, Ocalanus SX | Podon, Dodes Spp. | Euryte Pleopsis ? | Castro, Spp. | Oithon Oorlo | Bivalle Sept. | Oikopi (larvae) | Hydro, Spp. | Harpa (medis | Caland Cticoida Ca) | Chaen Spp. Dibenthic | Chirida Ognatha | Aglann, Spp. | Pritillal Sp. (me | Chinole Spp. | Metrial Remode (le | Decapo | Chidari Marnon bro | Obelia (lange) achyura (la | Polychaete (Medisa) | Amphipoda (larvae) |

Predicted Values

| m | Classification Report Matrix max 5000 learning objects per class | | | | | | | |
|--|--|--------|----------|--|--|--|--|--|
| | precision | recall | f1-score | | | | | |
| Temora spp. (n=18103-train=5000) | 0.74 | 0.59 | 0.65 | | | | | |
| Acartia spp. (n=13302-train=5000) | 0.76 | 0.53 | 0.63 | | | | | |
| Evadne spp. (n=5228-train=5000) | 0.83 | 0.86 | 0.85 | | | | | |
| Pseudocalanus spp. (n=3053-train=4845) | 0.24 | 0.45 | 0.31 | | | | | |
| Centropages spp. (n=330-train=3620) | 0.17 | 0.88 | 0.29 | | | | | |
| Podon/Pleopsis spp. (n=253-train=5000) | 0.08 | 0.14 | 0.10 | | | | | |
| Eurytemora spp. (n=178-train=1818) | 0.06 | 0.68 | 0.11 | | | | | |
| Gastropoda (larvae/Limacina) (n=112-train=3272) | 0.47 | 0.60 | 0.52 | | | | | |
| Oithona spp. (n=98-train=5000) | 0.15 | 0.87 | 0.25 | | | | | |
| Bivalvia (larvae) (n=92-train=3764) | 0.90 | 0.90 | 0.90 | | | | | |
| Oikopleura spp. (n=70-train=5000) | 0.71 | 0.80 | 0.75 | | | | | |
| Hydrozoa (medusa) (n=64-train=4052) | 0.10 | 0.28 | 0.15 | | | | | |
| Harpacticoida- epibenthic (n=50-train=555) | 0.12 | 0.30 | 0.17 | | | | | |
| Calanus spp. (n=25-train=359) | 0.49 | 0.68 | 0.57 | | | | | |
| Chaetognatha (n=15-train=89) | 0.79 | 0.73 | 0.76 | | | | | |
| Chiridius spp. (n=14-train=1) | 0.00 | 0.00 | 0.00 | | | | | |
| Aglantha spp. (medusa) (n=10-train=22) | 0.62 | 0.50 | 0.56 | | | | | |
| Fritillaria spp. (n=7-train=5000) | 0.06 | 0.71 | 0.11 | | | | | |
| Echinodermata (larvae) (n=5-train=3043) | 0.00 | 0.00 | 0.00 | | | | | |
| Metridia spp. (n=2-train=16) | 0.00 | 0.00 | 0.00 | | | | | |
| ecapoda-non brachyura (larvae) (n=2-train=423) | 0.04 | 1.00 | 0.08 | | | | | |
| Cnidaria (larvae) (n=2-train=25) | 0.00 | 0.00 | 0.00 | | | | | |
| Obelia spp. (medusa) (n=1-train=1003) | 0.01 | 1.00 | 0.01 | | | | | |
| 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 | | | | | |
| macro avg | 0.28 | 0.48 | 0.30 | | | | | |
| weighted avg | 0.70 | 0.60 | 0.63 | | | | | |
| | | | [4 | | | | | |

precision recall f1-score

Actual Values

Predictions of discarded taxa from training

| | Acartia spp. | 0.0% | 9.4% (n=3) | 18.9% (n=862) | 3.8% (n=43) | | |
|---------------------------------|------------------------------|--------------------------------------|----------------------------|---|--------------------------------|----------|----|
| | Aglantha spp. (medusa) | 33.3% (n=2) | 0.0% | 0.0% | 0.0% | | |
| | Bivalvia (larvae) | 0.0% | 0.0% | 0.0% | 3.2% (n=36) | | 60 |
| | Calanus spp. | $16.7\%~\scriptscriptstyle{(n=1)}$ | 0.0% | 0.0% (n=2) | 0.0% | | |
| | Centropages spp. | 0.0% | 6.2% (n=2) | 1.8% (n=83) | 1.2% (n=14) | | |
| Decapoda-non brachyura (larvae) | | 0.0% | 0.0% | 0.1% (n=4) | 0.1% (n=1) | | 50 |
| Echinodermata (larvae) | | 0.0% | 0.0% | 0.1% (n=3) | 0.7% (n=8) | | |
| - | Eurytemora spp. | 0.0% | 9.4% (n=3) | 10.6% (n=485) | 1.1% (n=12) | | |
| Гахе | Evadne spp. | 0.0% | 0.0% | 15.5% (n=709) | 29.7% (n=333) | | 4(|
| Predicted Taxa | Fritillaria spp. | $16.7\% \ \scriptscriptstyle{(n=1)}$ | 0.0% | 0.4% (n=18) | 0.7% (n=8) | | |
| licte | Gastropoda (larvae/Limacina) | 0.0% | 0.0% | 0.4% (n=19) | 8.2% (n=92) | | |
| red | Harpacticoida- epibenthic | 0.0% | 0.0% | 0.7% (n=31) | 0.4% (n=5) | | 30 |
| | Hydrozoa (medusa) | 0.0% | 0.0% | $0.2\%~\textrm{\tiny (n=11)}$ | 8.9% (n=100) | | |
| | Obelia spp. (medusa) | 33.3% (n=2) | 0.0% | 0.5% (n=24) | 1.2% (n=13) | | |
| | Oikopleura spp. | 0.0% | 0.0% | 0.2% (n=7) | 0.8% (n=9) | | 20 |
| | Oithona spp. | 0.0% | 0.0% | 8.9% (n=405) | 2.1% (n=24) | | |
| | Podon/Pleopsis spp. | 0.0% | 0.0% | 4.1% (n=186) | 29.1% (n=327) | | |
| | Polychaeta (larvae) | 0.0% | 0.0% | 3.3% (n=149) | 5.5% (n=62) | | 10 |
| | Pseudocalanus spp. | 0.0% | 68.8% (n=22) | 12.1% (n=552) | 0.8% (n=9) | | |
| | Temora spp. | 0.0% | 6.2% (n=2) | 22.2% (n=1012) | 2.4% (n=27) | | ^ |
| | | $A_{nthoatho}$ | Calanoida cata (medu. | Copepoda | Zooplanke | | 0 |
| | | , | Calanoida cata (medusa) | $C_{oldsymbol{opepo}_{oldsymbol{n} pprox 4562}}$ (unid) | Zooplankto n≈1123 (unid) | n (unid) | |

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample Val Pred 1.0 -0.8 -Relative Abundance 0.4 0.2 -0.0 S21 S25 S22 S23 S24 S26 S27 S28 S29 S30

Sample Short ID

