Use of SCN features: Yes

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

Actual Values

NL 2021 Selected Samples prediction using NL 2021 training set, Learning with all classes present in the selected samples, with extra training categories, No Calanoida (civ-vi), Cyclopoida, Zooplankton classes in learning set

Confusion Matrix - In percent of Actual Value

| | | | | | | | | | | | , | COIII | 15101 | I /VId | IIIX - | - 111 | perce | eni o | ı Acı | ludi | value | | | | | | | | | | |
|---------------------------------|------------------|------|--------|---------------|-------------------|-------|------------|--------------|---------------------|------------|-----------------|--------------------|---------------|------------------------------|-------------------|---------------|------------|-----------|--------------|---------------------|-----------------------------|---------------------|----------------------|------------------|--------------|-------------|--------------------------|------------------------|--------------------|-------------------------------|---------------------|
| Acartia spp. | 72% | <1% | 7% | 9% | 3% | | | 6% | | | | <1% | | | | <1% | <1% | | <1% | | | | | | | <1% | <1% | | <1% <1 | % | |
| Evadne spp. | | 93% | | <1% | <1% | <1% | 2% | <1% | | | | | | <1% | <1% | <1% | | | <1% | | | | | | | 1% | 1% | | | | |
| Temora spp. | 14% | 1% | 53% | 9% | 3% | | <1% | 15% | | | | | | | | | | | | | | | | | | 1% | 2% | | <1 | % | |
| Pseudocalanus spp. | 25% | | 14% | 53% | <1% | | | 7% | | | | <1% | | | | <1% | <1% | | | <1% | | | | | | | <1% | | <1 | % | |
| Oithona spp. | 12% | 1% | 1% | | 79% | <1% | | 3% | | | <1% | | | | | 2% | | | | | | | | | | <1% | <1% | | | | |
| Bryozoa (larvae) | | 46% | | | | 40% | <1% | 2% | | | <1% | | | 2% | <1% | <1% | | | <1% | | | | | | | 1% | 6% | | | | |
| Podon/Pleopsis spp. | 1% | 12% | 12% | 2% | | | 15% | 2% | | | | | | | | <1% | <1% | | 13% | | | | | | | 13% | 30% | | | | |
| Calanoida (ci-ciii) | 12% | 12% | 7% | 6% | 3% | | 3% | 27% | | | | | | | | | <1% | | <1% | <1% | | | | | | 3% | 25% | | <1 | % | |
| Oikopleura spp. | | | 3% | 3% | 3% | | | <1% | 60% | | <1% | | | | | 26% | | <1% | | 2% | | | | | | | | | <1% | | |
| Centropages spp. | 66% | | 6% | 5% | | | | | | 19% | 1% | | | | | | | | | 1% | | | | | 1% | | | | 1% | | |
| Echinodermata (larvae) | 4% | | 2% | | 24% | | | | 2% | | 20% | | | | | 44% | | | | | | | | | | 2% | 2% | | | | |
| Harpacticoida- epibenthic | 34% | 2% | 6% | 9% | 9% | | | 13% | | | | 26% | | | | | | | | | | | | | | | 2% | | | | |
| Hydrozoa (medusa) | | 23% | | | | | | | | | 9% | | 2% | | | 21% | | | 2% | 4% | | 9% | | | | 17% | 4% | 9% | | | |
| Gastropoda (larvae/Limacina) | | 9% | | | | | 9% | | | | | | | 60% | 11% | | | | 11% | | | | | | | | 2% | | | | |
| Bivalvia (larvae) | | | | | | 5% | 2% | | | | | | | 16% | 77% | | | | | | | | | | | | | | | | |
| Fritillaria spp. | | | | | 12% | | | | | | 3% | | | | | 85% | | | | | | | | | | | | | | | |
| Microcalanus spp. | | 6% | 3% | 13% | | | | 35% | | | | | | | | | 10% | | 6% | | | | | | | 6% | 19% | | | | |
| Chaetognatha | | | | | | | | | 39% | | | | | | | 11% | | 43% | 4% | 4% | | | | | | | | | | | |
| Polychaeta (larvae) | 5% | 10% | | 5% | 10% | | | | | | | | | | | | | | 45% | | | | | | | 15% | 10% | | | | |
| Calanus spp. | 7% | | | 14% | | | | | | | | | | | | | | | | 79% | | | | | | | | | | | |
| Eurytemora spp. | 40% | | 30% | 30% | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aglantha spp. (medusa) | | | | | | | | | | | | | | | | | | | 11% | 11% | | 78% | | | | | | | | | |
| Oncaeidae spp. | 17% | | | 17% | 17% | | | 17% | | | | 33% | | | | | | | | | | | | | | | | | | | |
| Sarsia spp. (medusa) | | | | | | | | | | | | | | | | 25% | | | | | | 25% | | | | 50% | | | | | |
| Ostracoda | | 50% | | | | 50% | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tortanus spp. | 50% | | | | | | | | | | | | | | | | | | | 50% | | | | | | | | | | | |
| Decapoda-non brachyura (larvae) | | | | | | | | | _ | _ | | | • | | | • | | | | 100% | | | | | | | | | | | Dec |
| | Acari | SPD. | re Sp. | Psell Spp. | Oitho docalant | Bryo. | Podo, lana | Color Colors | Oikol Toida (ci. | Centra Sp. | Chin Spages Sp. | Marpe Podermare | Mydf. (lande) | Castle Collection | Bivall Copoda (le | Pritile Marca | Micro Spp. | Chac Chac | Polytognatha | Calan Chaeta (le | EUTYTE LUS SPP. Praej | Aglantha Anora Spp. | Incacidae Sp. (medus | OSTRACE SODO (ME | Portanus St. | Scapoda III | ibedia (lai On brachy | Obelic Poda (national) | Supposision (medus | pholisiacea (na ea (lande) | ^{Yup} lii) |
| | Predicted Values | | | | | | | | | | | "OTVO | | Extra training classes | | | | | | | | | | | | | | | | | |

Classification Report Matrix max available learning objects per class

| | | • | · • | |
|---|-----------|--------|----------|--|
| | precision | recall | f1-score | |
| Acartia spp. (n=2490-train=5448) | 0.75 | 0.72 | 0.73 | |
| Evadne spp. (n=1931-train=2845) | 0.90 | 0.93 | 0.91 | |
| Temora spp. (n=1416-train=5148) | 0.66 | 0.53 | 0.59 | |
| Pseudocalanus spp. (n=1044-train=4552) | 0.58 | 0.53 | 0.55 | |
| Oithona spp. (n=345-train=1409) | 0.64 | 0.79 | 0.71 | |
| Bryozoa (larvae) (n=248-train=119) | 0.95 | 0.40 | 0.56 | |
| Podon/Pleopsis spp. (n=230-train=201) | 0.39 | 0.15 | 0.21 | |
| Calanoida (ci-ciii) | 0.07 | 0.27 | 0.10 | |
| (n=130-train=3713) Oikopleura spp. | 0.85 | 0.60 | 0.70 | |
| (n=115-train=761) Centropages spp. | 1.00 | 0.19 | 0.32 | |
| (n=88-train=40) Echinodermata (larvae) | 0.53 | 0.20 | 0.29 | |
| (n=50-train=276) Harpacticoida- epibenthic | 0.75 | 0.26 | 0.29 | |
| (n=47-train=136) Hydrozoa (medusa) | | | | |
| (n=47-train=21) Gastropoda (larvae/Limacina) | 1.00 | 0.02 | 0.04 | |
| (n=47-train=110) Bivalvia (larvae) | 0.48 | 0.60 | 0.53 | |
| (n=44-train=71) Fritillaria spp. | 0.79 | 0.77 | 0.78 | |
| (n=34-train=3447) | 0.25 | 0.85 | 0.38 | |
| Microcalanus spp. (n=31-train=80) | 0.33 | 0.10 | 0.15 | |
| Chaetognatha (n=28-train=67) | 0.92 | 0.43 | 0.59 | |
| Polychaeta (larvae) (n=20-train=452) | 0.16 | 0.45 | 0.24 | |
| Calanus spp. (n=14-train=213) | 0.48 | 0.79 | 0.59 | |
| Eurytemora spp. (n=10-train=88) | 0.00 | 0.00 | 0.00 | |
| Aglantha spp. (medusa) (n=9-train=21) | 0.58 | 0.78 | 0.67 | |
| Oncaeidae spp. (n=6-train=16) | 0.00 | 0.00 | 0.00 | |
| Sarsia spp. (medusa) (n=4-train=4) | 0.00 | 0.00 | 0.00 | |
| Ostracoda (n=2-train=6) | 0.00 | 0.00 | 0.00 | |
| Tortanus spp. (n=2-train=4) | 0.00 | 0.00 | 0.00 | |
| ecapoda-non brachyura (larvae) | 0.00 | 0.00 | 0.00 | |
| (n=1-train=7) Cirripedia (larvae) | _ | _ | _ | |
| (n=0-train=611) Copepoda (nauplii) | _ | _ | _ | |
| (n=0-train=1025) Obelia spp. (medusa) | _ | _ | _ | |
| (n=0-train=43) Euphausiacea (larvae) | _ | _ | _ | |
| (n=0-train=75) Euphausiacea (nauplii) | _ | _ | | |
| (n=0-train=122) | 0.40 | - 0.20 | 0.27 | |
| macro avg (corr) | 0.48 | 0.38 | 0.37 | |
| weighted avg | 0.72 | 0.66 | 0.68 | |

Predictions of discarded taxa from training 100 24.7% (n=338) 0.0% 0.0% 100.0% (n=1) 0.3% (n=1) Acartia spp. 0.0% 0.3% (n=1) Aglantha spp. (medusa) 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% Bivalvia (larvae) 0.0% 9.4% (n=30) 0.0% 0.0% 0.0% Bryozoa (larvae) 0.1% (n=1) 2.5% (n=8) 80 Calanoida (ci-ciii) 0.0% 50.0% (n=1) 0.0% 3.5% (n=11) 26.2% (n=359) Calanus spp. 0.1% (n=1) 0.0% 0.0% 0.0% 0.3% (n=1) 0.0% 0.0% 0.0% 1.9% (n=6) Cirripedia (larvae) 1.7% (n=23) Copepoda (nauplii) 0.0% 0.0% 0.0% 6.9% (n=22) 5.3% (n=72) 0.0% 0.0% 60 Echinodermata (larvae) 0.0% 0.0% 1.6% (n=5) **Predicted Taxa** 0.0% Euphausiacea (nauplii) 0.6% (n=8) 0.0% 0.0% 0.0% 50.0% (n=1) 0.0% Evadne spp. 0.0% 37.4% (n=119) 4.2% (n=58) 0.0% Fritillaria spp. 1.7% (n=23) 0.0% 0.0% 2.8% (n=9) 0.0% 100.0% (n=1) 0.0% Gastropoda (larvae/Limacina) 0.0% 9.1% (n=29) 40 Harpacticoida- epibenthic 0.1% (n=1) 0.0% 0.0% 0.0% 0.0% 0.0% Microcalanus spp. 0.1% (n=2) 0.0% 0.0% 0.0% 0.0% Oithona spp. 11.5% (n=158) 0.0% 0.0% 2.5% (n=8) Ostracoda 0.0% 0.0% 0.0% 0.0% 0.9% (n=3) 20 Podon/Pleopsis spp. 0.3% (n=4) 0.0% 0.0% 0.0% 9.7% (n=31) Polychaeta (larvae) 0.2% (n=3) 0.0% 0.0% 0.0% 6.6% (n=21) Pseudocalanus spp. 12.8% (n=176) 0.0% 0.0% 0.0% 3.8% (n=12) 0.3% (n=1) Temora spp. 10.4% (n=143) 0.0% 0.0% 0.0% 0 Calanoida (civ-vi) Cyclopoida (unid) Foraminifera $M_{onstrillidae}$ Zooplankton (unid)

Extra training classes

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample



