

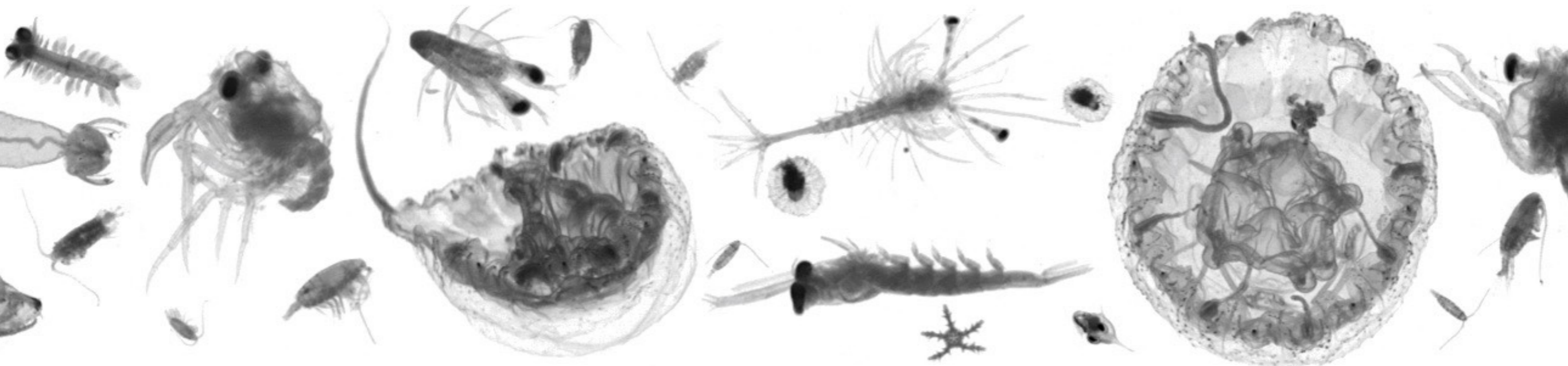
Imaginecology, 2020-11-16

Irison, Vilgrain, Cailleton, Picheral, Maps, Ayata



Le deep learning comme extracteur de caractéristiques morphologiques

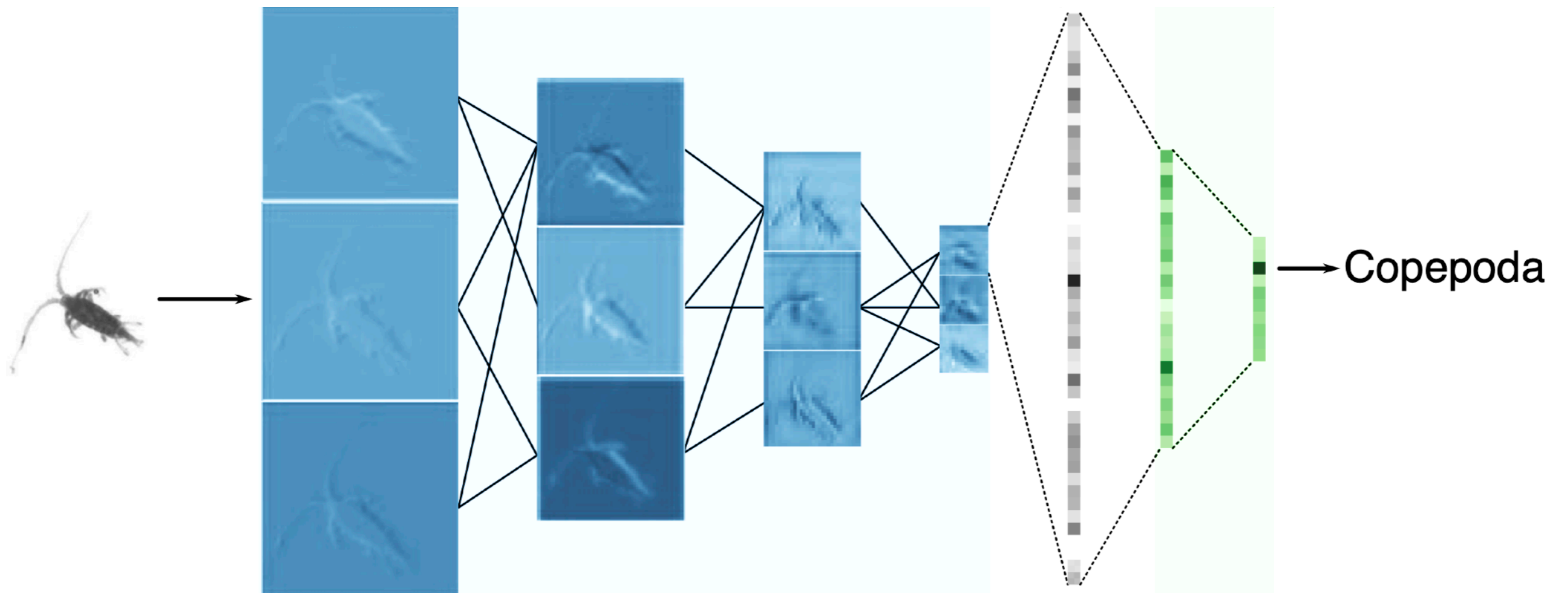
Application à l'écologie du plancton marin



Un CNN = deux outils

Partie convolutive
=
Extraction d'information

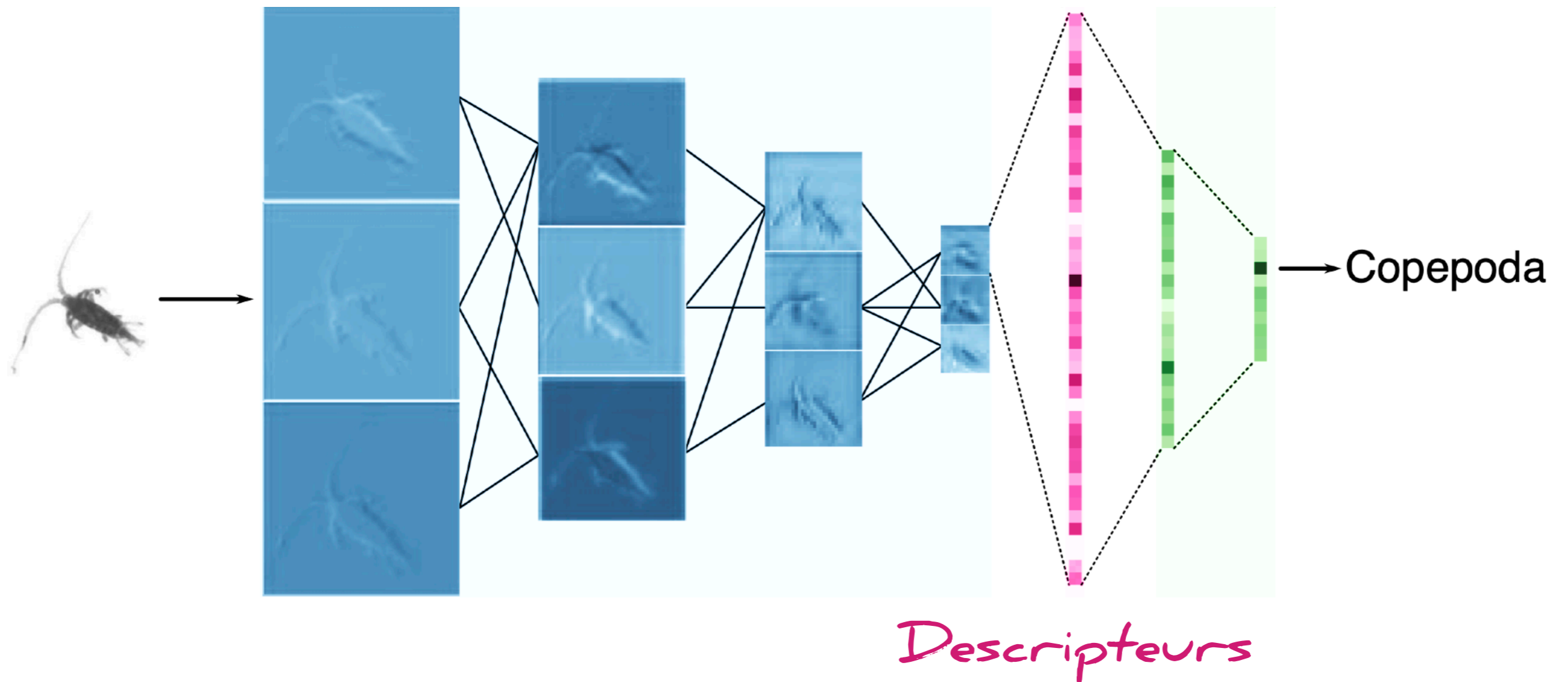
Partie connectée
=
Classification



Un CNN = deux outils

Partie convolutive
=
Extraction d'information

Partie connectée
=
Classification



Des descripteurs pour classer taxinomiquement

ecotaxa.obs-vlfr.fr/prj/185

EcoTaxa DEMO Zooscan point B WP2 200 FOR MARC COURSE

DEMO Zooscan point B WP2 200 FOR MARC COURSE (10, 232, 0, 0 / 242)

Filter: Taxo= Acartiidae ✕

Jean-Olivier Irisson (log out)

Action

Update view & apply filter

Select all

Score

Display

Status All

100

70

Taxonomy filter

Other filters

- eudoxie < Diphyidae 0
- nectophore < Diphyidae 0
- Physonectae 0
 - nectophore < Physonectae 0
- Crustacea 0
 - Amphipoda 4 13
 - Cirripedia 0
 - nauplii < Cirripedia 0
 - Cladocera 0
 - Evadne 0
 - Podon 0
 - Penilia avirostris 0
 - Copepoda 0
 - Calanoida 10 687
 - Acartiidae 10 232**
 - Calanidae 4 247
 - Candaciidae 0
 - Centropagidae 6 271
 - Temoridae 10 796
 - Cyclopoida 10 258
 - Oithonidae 12 236
 - Harpacticoida 0
 - Euterpina 0
 - Poecilostomatoida 0
 - Corycaeidae 12 334
 - Oncaeidae 12 346
 - multiple < Copepoda 9 169

Row	Col	Score
1	1	-
1	2	-
1	3	-
1	4	-
1	5	-
1	6	-
1	7	-
1	8	-
1	9	-
1	10	-
2	1	0.63
2	2	0.58
2	3	0.56
2	4	0.55
2	5	0.52
2	6	0.52
2	7	0.52
2	8	0.51
2	9	0.49
2	10	0.49
3	1	0.48
3	2	0.48
3	3	0.47
3	4	0.47
3	5	0.46
3	6	0.46
3	7	0.45
3	8	0.45
3	9	0.45
3	10	0.45
4	1	-
4	2	-
4	3	-
4	4	-
4	5	-
4	6	-
4	7	-
4	8	-
4	9	-
4	10	-

Des descripteurs pour classer taxinomiquement

The screenshot displays the EcoTaxa 2.4 web interface. At the top, the browser address bar shows 'ecotaxa.obs-vlfr.fr/prj/185'. The page title is 'EcoTaxa DEMO Zooscan point B WP2 200 FOR MARC COURSE'. A progress bar indicates '10, 232, 0, 0 / 242'. The user 'Jean-Olivier Irisson' is logged in. The main content area shows a grid of microscopic images of organisms, primarily Acartiidae, with a 1 mm scale bar. Below each image is a label 'Acartiidae' and a score. The left sidebar contains a taxonomy filter with a tree structure showing various taxonomic levels and their counts. A yellow sticky note is overlaid on the right side of the grid.

Project Filtered Filter: Taxo= Acartiidae

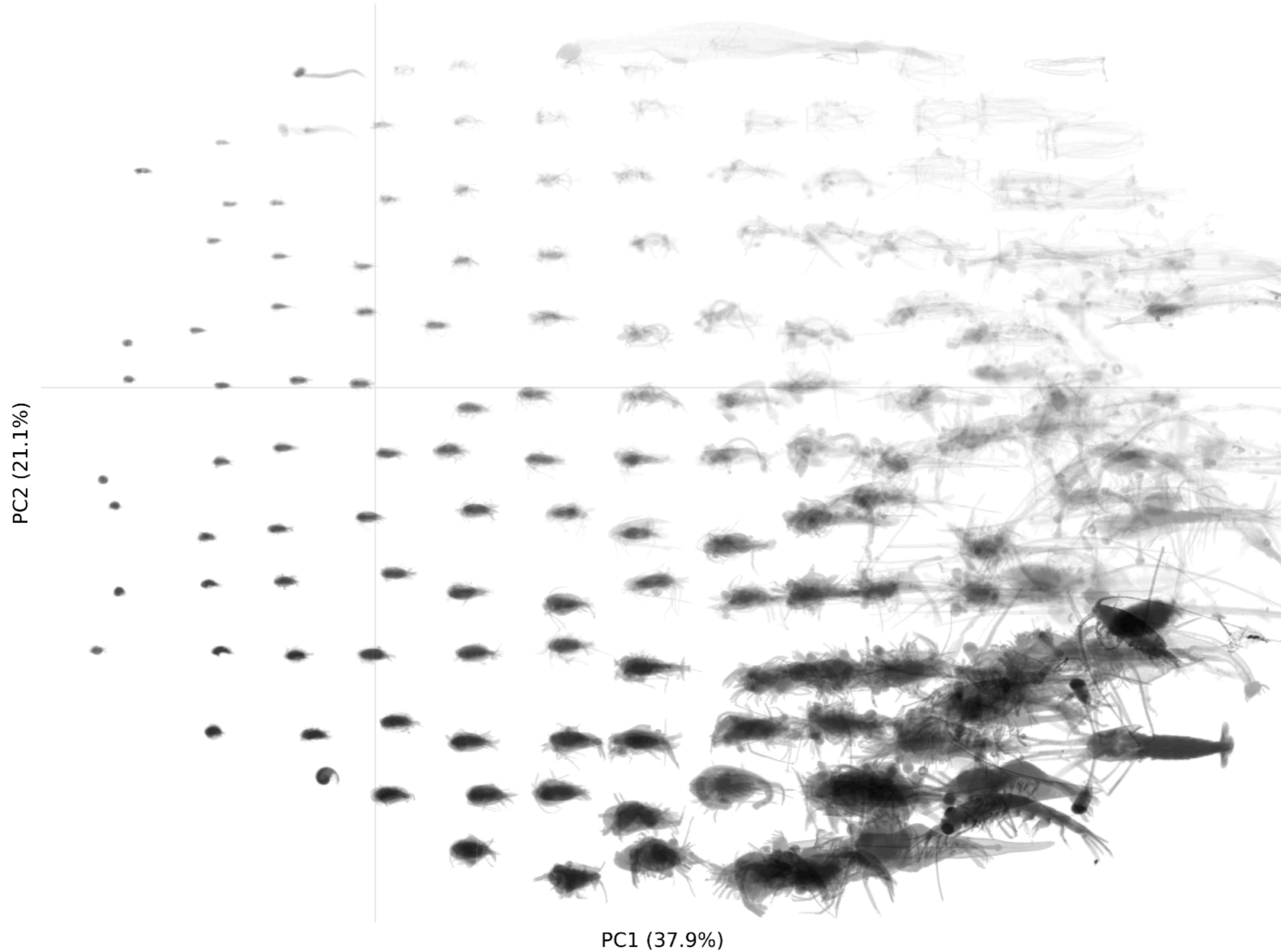
Update view & apply filter Select all Score Display Status All 100 70

Taxonomy filter Other filters

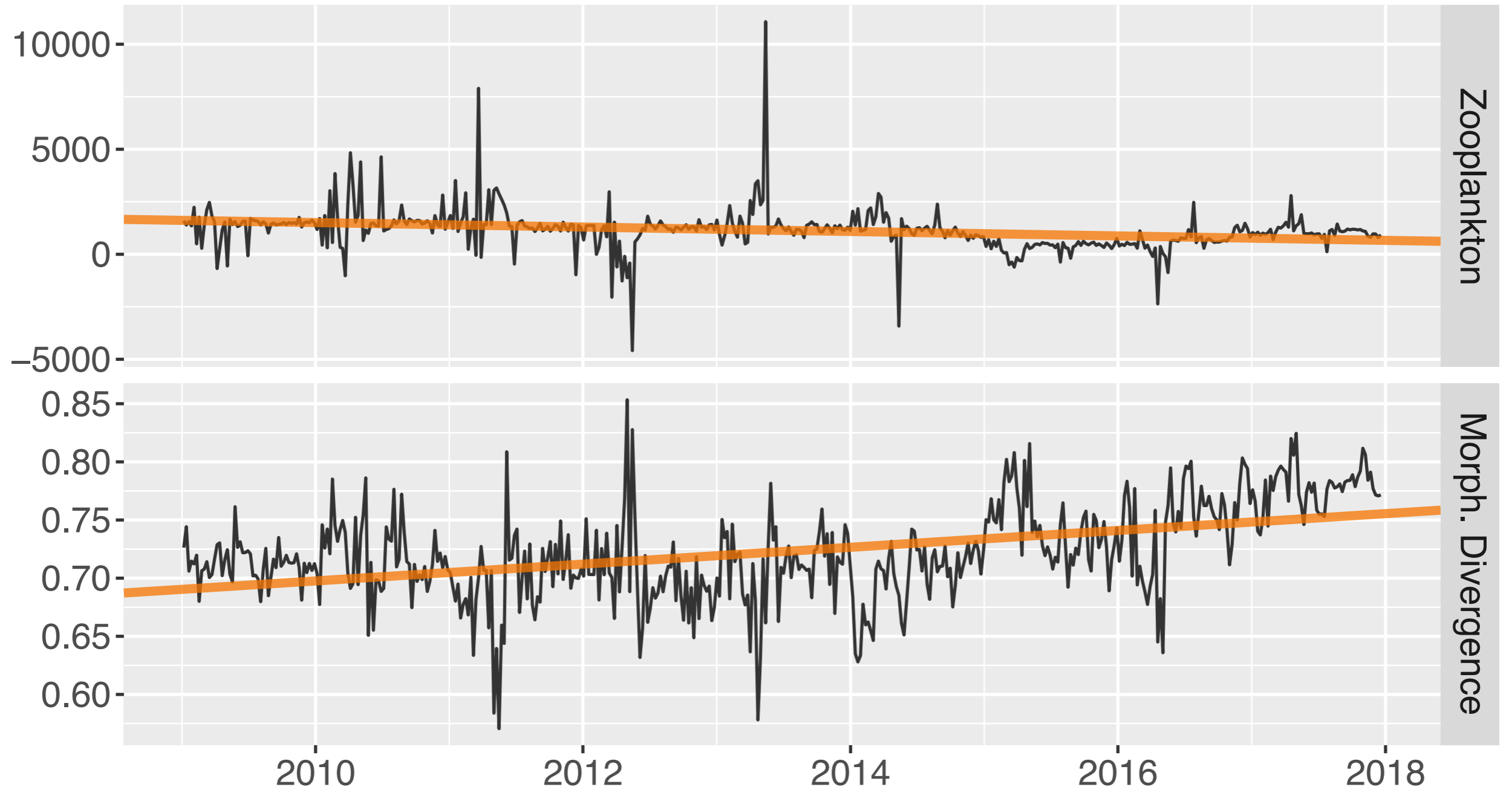
- eudoxie < Diphyidae 0
- nectophore < Diphyidae 0
- Physonectae 0
 - nectophore < Physonectae 0
- Crustacea 0
 - Amphipoda 4 13
 - Cirripedia 0
 - nauplii < Cirripedia 0
 - Cladocera 0
 - Evadne 0
 - Podon 0
 - Penilia avirostris 0
 - Copepoda 0
 - Calanoida 10 687
 - Acartiidae 10 232**
 - Calanidae 4 247
 - Candaciidae 0
 - Centropagidae 6 271
 - Temoridae 10 796
 - Cyclopoida 10 258
 - Oithonidae 12 236
 - Harpacticoida 0
 - Euterpina 0
 - Poecilostomatoida 0
 - Corycaeidae 12 334
 - Oncaeidae 12 346
 - multiple < Copepoda 9 169

125M d'images
54M classées
900 utilisateurs
320 organisations

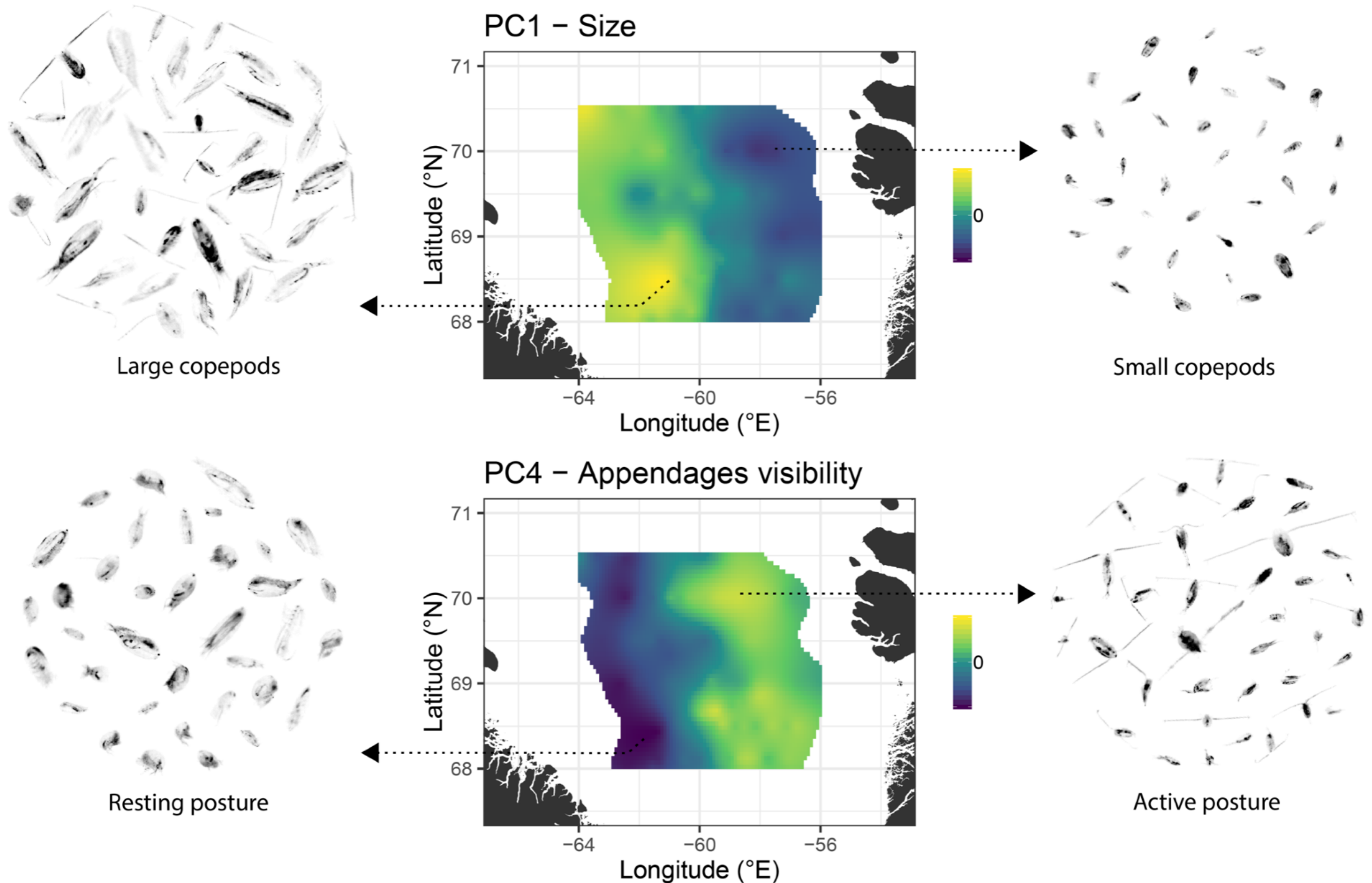
Des descripteurs pour quantifier la diversité



Des descripteurs pour quantifier la diversité



Des descripteurs pour accéder aux traits individuels





Merçi

<https://ecotaxa.obs-vlfr.fr>

irisson@normalesup.org

Irisson, Vilgrain, Cailleton, Picheral, Maps, Ayata