**Supplementary Material**

**A 17-year time-series of diatom populations’ flux and composition in the Mauritanian coastal upwelling**

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Supplementary Table 1: Species composition of diatom groups at site CBeu between June 2003 and March 2020.

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|  Group Species | Main References |
| 1) | Benthic |  |  |
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| *Actinoptychus* *senarius* |
| *Actinoptychus* *vulgaris* |
| *Biddulphia alternans**Cocconeis* spp. |
| *Delphineis surirella* |
| *Diploneis* spp. |
| *Gomphonema* spp. |
| *Odontella mobiliensis**Paralia sulcata* |
| *Psammodyction panduriformis* |
| *Rhaphoneris amphiceros* |
| *Tryblionella* spp. |

 | Andrews (1981), Round et al. (1990), Hasle and Syvertsen (1996). |
| 2) | Coastal upwelling |
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| *Chaetoceros affinis* |
| *Chaetoceros cinctus* |
| *Chaetoceros compresus* |
| *Chaetoceros constrictus* |
| *Chaetoceros coronatus* |
| *Chaetoceros debilis* |
| *Chaetoceros diadema* |
| *Chaetoceros radicans**Thalassionema nitzschioides* var. *nitzschioides* |

 | Hasle and Syvertsen (1996); Abrantes et al. (2002); Nave et al., 2001; Romero et al., 2002; Romero and Armand, 2010) |
| 3) | Coastal planktonic |
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| *Actinocyclus curvatulus* |
| *Actinocyclus octonarius* |
| *Actinocyclus subtilis* |
| *Azpeitia barronii* |
| *Chaetoceros concavicornis* (vegetative cell) |
| *Coscinosdiscus argus* |
| *Coscinosdiscus centralis* |
| *Coscinosdiscus radiatus* |
| *Cyclotella litoralis* |
| *Proboscia alata* |
| *Shionodiscus oestrupii* var. *venrickae* |
| *Stellarima stellaris* |
| *Thalassionema pseudonitzschioides* |
| *Thalassiosira binata* |
| *Thalassiosira conferta* |
| *Thalassiosira delicatula* |
| *Thalassiosira dyporocyclus* |
| *Thalassiosira elsayedii* |
| *Thalssiosira poro-irregulata* |
| *Thalassiosira rotula* |

 | Romero and Armand (2010), Romero and Fischer (2017); Crosta et al. (2012); Romero et al. (2009, 2020) |
| 4) | Open-ocean |
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| *Alveus marinus* |
| *Aserolampra marylandica* |
| *Asteromphalus arachne* |
| *Asteromphalus cleveanus* |
| *Asteromphalus flabellatus* |
| *Asteromphalus heptactis* |
| *Asteromphalus sarcophagus* |
| *Azpetia africana* |
| *Azpetia neocrenulata* |
| *Azpetia nodulifera* |
| *Azpetia tabularis* |
| *Bacteriastrum elongatum* |
| *Bogorovia* spp.*Coscinodiscus reniformis**Detonula pumila* |
| *Fragilariopsis doliolus**Guinardia cyclindrus**Haslea* spp. |
| *Hemidiscus cuneiformis* |
| *Leptocyclindrus mediterraneus* |
| *Nitzschia aequatoriale**Nitzschia bicapitata* |
| *Nitzschia capuluspalae* |
| *Nitzschia interruptestriata* |
| *Nitzschia sicula* |
| *Nitzschia sicula* var. *rostrata* |
| *Planktoniella sol* |
| *Pseudo-nitzschia* spp. |
| *Pseudosolenia calcar-avis* |
| *Pseudotriceratium punctatum* |
| *Rhizosolenia acuminata* |
| *Rhizosolenia bergonii* |
| *Rhizosolenia imbricatae* |
| *Rhizosolenia robusta* |
| *Rhizosolenia setigera* |
| *Rhizosolenia styliformis* |
| *Roperia tessellata* |
| *Shionodiscus oestrupii* var. *oestrupii* |
| *Thalassionema bacillare* |
| *Thalassionema frauenfeldii* |
| *Thalassionema nitzschioides* var*. capitulata* |
| *Thalassionema nitzschioides* var*. inflata* |
| *Thalassionema nitzschioides* var*. lanceolata* |
| *Thalassionema nitzschioides* var*. parva* |
| *Thalassiosira eccentrica* |
| *Thalassiosira endoseriata* |
| *Thalassiosira ferelineata* |
| *Thalassiosira lentiginosa* |
| *Thalassiosira leptopus* |
| *Thalassiosira lineata* |
| *Thalassiosira nanolineata* |
| *Thalassiosira parthenia*  |
| *Thalassiosira plicata* |
| *Thalassiosira punctigera* |
| *Thalassiosira sacketii* var. *sacketii* |
| *Thalassiosira sacketii* var. *plana* |
| *Thalassiosira subtilis* |
| *Thalassiosira symmetrica* |
| *Thalassiothrix* spp. |

 | Romero and Armand (2010), Romero and Fischer (2017), Romero et al. (2005), Crosta et al. (2012), Romero et al. (2020). |

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