**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 |  |  |
|  |  | |  | | --- | | *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 | | |
|  |  | |  | | --- | | *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 | | |
|  |  | |  | | --- | | *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 | | |
|  |  | |  | | --- | | *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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