### Diatom Algae-Indicators of Water Quality in the Lower Zarafshan River, Uzbekistan

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**Supplementary Materials**

Table S1. Taxonomical list of diatom algae with abundance scores and autecology of species revealed in the Zarafshan River, 2009-2015.

| Taxa                                      | Khaitchi | Pakhakor | Navoi | Gubadoon | Bukhara | Karakul | Hab | T   | Oxy | pH | Sal | D | Sap | S | Tro | Aut-Het |
|-------------------------------------------|----------|----------|-------|----------|---------|---------|-----|-----|-----|----|-----|--|----|---|-----|---------|
| Achnanthes coarctata (Brébisson ex W.Smith) Grunow | 0        | 3        | 0     | 0        | 0       | 3       | B   | -   | ae  | ind | hl  | - | x   | 0.20 | ot  | -       |
| Achnanthes dispar var. angustissima Jasinski | 0        | 0        | 0     | 0        | 0       | 5       | -   | -   | -   | -   | -   | - | -   | -   | -   | -       |
| Achnanthes neoskortzowii Simonsen          | 0        | 0        | 0     | 0        | 3       | 3       | B   | -   | -   | ind | i   | - | -   | -   | -   | -       |
| Achnanthes profundata Skvortzov            | 0        | 0        | 0     | 0        | 1       | 0       | -   | -   | -   | -   | -   | - | -   | -   | -   | -       |
| Achnanthes striata Skvortzov               | 0        | 0        | 0     | 0        | 0       | 3       | B   | -   | -   | ind | i   | - | -   | -   | -   | -       |
| Achnanthidium exile (Kützing) Heiberg      | 0        | 0        | 0     | 0        | 1       | 0       | B   | -   | str | alb | i   | sx | o-a | 1.80 | o-m | ats     |
| Achnanthidium minutissimum (Kützing) Czarnecki | 3    | 0        | 0     | 3       | 0       | 0       | P-B | eterm | st-str | ind | i | es | x-b | 0.95 | o-e | ate     |
| Achnanthidium nodosum (Cleve) Tseplik & Chudaev | 0    | 0        | 0     | 3       | 0       | 0       | B   | -   | -   | acf | hb | o  | 1.0 | ot  | -       |
| Achnanthidium pyrenaicum (Hustedt) H.Kobayasi | 0 | 1        | 0     | 1       | 0       | 0       | B   | -   | -   | alf | mh | sx | x-o | 0.40 | -   | -       |
| Adlafia minuscula (Grunow)                 | 0        | 0        | 1     | 0       | 0       | 0       | P-B | -   | -str | ind | - | es | a-o | 2.80 | ot  | -       |
| Amphora commutata Grunow                   | 0        | 0        | 0     | 0       | 0       | 3       | B   | -   | -   | -   | - | hl | -   | -   | e     |
| Amphora libya Ehrenberg                    | 0        | 0        | 0     | 0       | 0       | 1       | P   | -   | -   | -   | - | b | 2.20 | -   | -       |
| Amphora ovalis (Kützing) Kützing var. ovalis | 3       | 0        | 0     | 0       | 0       | 3       | B   | temp | st-str | alf | i | sx | o-b | 1.50 | me | ate     |
| Amphora ovalis var. gracilis (Ehrenberg) Van Heurck | 0    | 0        | 0     | 0       | 0       | 3       | B   | -   | -   | alf | i | sx | o-b | 1.50 | -   | -       |
| Amphora pediculus (Kützing) Grunow         | 0        | 0        | 0     | 0       | 0       | 3       | B   | temp | st   | alf | i | es | b-o | 1.70 | o-m | ate     |
| Amphora proteus var. baicalensis Skvortzov | 0        | 0        | 0     | 0       | 0       | 3       | 0   | -   | -   | -   | - | - | -   | -   | -   | -       |
| Amphora subconstricta Levkov               | 0        | 0        | 0     | 0       | 0       | 3       | B   | -   | -   | alf | i | - | -   | -   | -   | -       |
| Aneamastus tascala (Ehrenberg) D.G.Mann & A.J.Stickle | 0 | 1        | 0     | 0       | 0       | 0       | P-B | -   | -   | alf | i | - | x-b | 0.90 | o-e | -       |
| Species | Authors | Remarks | P | B | n | mh | a-o | sp | ot | me | ate |
|---------|---------|---------|---|---|---|----|-----|----|----|----|-----|
| Anomoeoneis costata (Kützing) | Hustedt | | 0 | 0 | 3 | 0 | 0 | 0 | - | - | mh | 2.70 | - | - |
| Brachysira microcephala (Grunow) Compère | | | 5 | 0 | 0 | 0 | 0 | 0 | B | - | - | - | 1.00 | o-m | - |
| Caloneis amphisiuenae (Bory) Cleve | | | 0 | 0 | 0 | 0 | 3 | 0 | B | - | st-str | alf | i | b | 2.30 | me | ate |
| Caloneis bacillum (Grunow) Cleve | | | 0 | 0 | 0 | 0 | 0 | 5 | B | temp | st-str | ind | i | es | o | 1.30 | me | ats |
| Caloneis dubia Krammer | | | 0 | 0 | 0 | 0 | 0 | 3 | P-B | - | st-str | - | hb | o | 1.00 | ot | - |
| Caloneis fossilis Cleve-Euler | | | 0 | 0 | 0 | 0 | 1 | 0 | - | - | - | - | - | - | - | - | - |
| Caloneis leptosoma (Grunow) Krammer | | | 3 | 0 | 0 | 0 | 0 | 3 | B | - | str | ind | i | - | o | 1.00 | ot | ats |
| Caloneis molaris (Grunow) Krammer | | | 1 | 0 | 0 | 0 | 0 | 0 | B | - | str | ind | i | es | o | 1.00 | ot | - |
| Campylodiscus echeneis Ehrenberg ex Kützing | | | 0 | 0 | 0 | 0 | 3 | 0 | P | - | - | st | hl | - | - | - | - | - |
| Cocconeis lineata Ehrenberg | | | 0 | 0 | 3 | 0 | 0 | 3 | P-B | - | st-str | alf | i | sx | o | 1.20 | o-m | ate |
| Cocconeis neodiminita Krammer | | | 3 | 3 | 0 | 0 | 3 | 0 | P-B | temp | st-str | alf | i | sx | x-b | 0.90 | me | - |
| Cocconeis placenta var. euglypta (Ehrenberg) Grunow | | | 1 | 0 | 0 | 0 | 0 | 0 | 5 | P-B | temp | st-str | alf | i | sx | o | 1.30 | o-m | ate |
| Cocconeis discalis (Schumann) Cleve | | | 0 | 0 | 3 | 0 | 0 | 0 | B | - | st | alf | i | es | o-x | 0.70 | me | - |
| Craticula halophila (Grunow) D.G.Mann var. halophila | | | 0 | 0 | 3 | 3 | 0 | 0 | B | - | st-str | alf | mh | es | a | 3.00 | e | ate |
| Craticula halophila var. subcapitata (Ostrup) Czarnecki | | | 0 | 3 | 0 | 0 | 0 | 3 | B | - | str | alf | mh | es | - | - | - | - |
| Craticula simplex (Krasske) Levkov | | | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | alb | i | - | - | - | - | - |
| Crenotia thermalis (Rabenhorst) Wojtal | | | 0 | 0 | 0 | 0 | 5 | 0 | B | eterm | st-str | ind | mh | sx | x | 0.30 | o-m | - |
| Cleonema pulchella (Ralfs ex Kützing) D.M.Williams & Round var. pulchella | | | 0 | 3 | 0 | 0 | 0 | 0 | P-B | - | st-str | alf | i | - | b | 2.30 | o-m | ate |
| Cleonema pulchella var. lanceolata (O'Meara) L.Bukhtiyarova | | | 3 | 3 | 0 | 0 | 0 | 0 | P-B | - | - | alf | I | - | b | 2.00 | - | - |
| Cyclolophus dubius (Hustedt) Round | | | 0 | 0 | 0 | 1 | 1 | 0 | P-B | - | - | alf | l | es | b | 2.00 | o-m | ate |
| Cyclolophus mansfeldensis Houk, Kleen & H.Tanaka | | | 0 | 0 | 0 | 0 | 3 | 0 | P | - | - | ind | i | - | - | - | - | - |
| Cyclotella chocta (hatchetaria) Prasad | | | 0 | 0 | 0 | 0 | 3 | 0 | P | - | - | - | hl | - | - | - | - | - |
| Cyclotella comta var. spectabilis Cleve-Euler | | | 0 | 0 | 3 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - |
| Cyclotella distinguenda Hustedt var. distinguenda | | | 0 | 3 | 3 | 0 | 0 | 3 | P | - | str | alf | hl | - | o | 1.30 | - | - |
| Cyclotella distinguenda var. unigaustata (Hustedt) Håkansson & J.R.Carter | | | 0 | 3 | 0 | 0 | 3 | 0 | P | - | - | ind | i | - | - | - | - | - |
| Cyclotella melosiorides (Kirchner) Lemmermann | | | 0 | 3 | 0 | 0 | 3 | 0 | P | - | - | - | i | - | - | - | - | - |
| Cyclotella meneghiniana Kützing | | | 0 | 0 | 1 | 3 | 3 | 1 | P-B | temp | st | alf | hl | sp | a-o | 2.80 | e | hne |
| Species | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cyclotella operculata var. mesolea Grunow | 0 | 0 | 0 | 0 | 0 | 3 | P | - | - | ind | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cylindrotheca closterium (Ehrenberg) Reimann & J.C. Leven | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | alf | I | - | b | 2.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella affinis Kutzing | 0 | 0 | 0 | 0 | 0 | 3 | B | temp | st-str | alf | i | sx | o | 1.10 | ot | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella aspera (Ehrenberg) Cleve | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | st-str | neu | i | es | x | 0.30 | o-e | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella bergii Kisselev | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | - | eu | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella cistula (Ehrenberg) O. Kirchner | 3 | 0 | 0 | 0 | 0 | 3 | B | - | st-str | alf | i | sx | o | 1.20 | e | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella cymbiformis C. Agardh | 0 | 0 | 0 | 0 | 0 | 5 | 0 | B | temp | str | ind | i | sx | b | 2.00 | o-m | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella helvetica Kutzing var. helvetica | 0 | 0 | 0 | 0 | 3 | 3 | B | - | str | ind | i | - | o-x | 0.60 | o-m | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella helvetica var. curta Cleve | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | - | alf | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella helvetica var. punctata Hustedt | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | - | - | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella laevis Nägeli | 0 | 0 | 0 | 0 | 3 | 0 | B | cool | - | ind | i | sx | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella lanceolata (C. Agardh) C. Agardh var. lanceolata | 3 | 0 | 3 | 3 | 0 | 0 | B | - | str | alf | i | sx | o-b | 1.50 | me | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella lanceolata var. notata Wislouch & Poretyk | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | - | hl | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella scutataevis Skabitschevsky | 0 | 0 | 0 | 0 | 3 | 3 | B | - | - | ind | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella tartuensis Moldor | 0 | 0 | 3 | 0 | 3 | 0 | B | - | - | - | ind | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella tumida (Brebisson) Van Heurck | 0 | 0 | 3 | 0 | 0 | 0 | B | temp | str | alf | i | sx | b | 2.20 | me | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella tumidula Grunow | 0 | 0 | 0 | 0 | 3 | 0 | B | - | st-str | ind | - | es | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbella turgidula Grunow | 0 | 0 | 0 | 0 | 0 | 3 | B | - | st-str | ind | - | es | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbopleura austriaca (Grunow) Krammer | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | ind | i | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbopleura latia (Grunow ex Cleve) Krammer | 0 | 0 | 0 | 0 | 3 | 0 | B | - | - | ind | i | sx | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cymbopleura naviculiformis (Auerswald ex Heiberg) Krammer | 0 | 0 | 3 | 0 | 0 | 3 | B | - | st-str | ind | i | es | o | 1.20 | o-m | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diatoma tenella C. Agardh | 0 | 0 | 0 | 0 | 0 | 0 | P-B | - | st-str | ind | hl | sx | o | 1.30 | e | ate | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diatoma vulgaris Bory | 1 | 0 | 3 | 0 | 1 | 0 | P-B | - | st-str | ind | i | sx | b | 2.20 | me | ate | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diploneis smithii (Brebisson) Cleve var. smithii | 0 | 0 | 0 | 0 | 0 | 3 | B | - | - | - | alf | i | - | b | 2.00 | o-m | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diploneis smithii var. punila (Grunow) Hustedt | 0 | 0 | 0 | 3 | 3 | 5 | B | - | - | - | alf | mh | es | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Discostaella stelligera (Cleve & Grunow) Houk & Klee | 0 | 3 | 0 | 0 | 0 | P | - | - | - | ind | i | - | - | o-b | 1.40 | o-m | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Encyonema elvisense (Krammer) D.G. Mann | 0 | 0 | 0 | 0 | 0 | 3 | B | temp | st | acf | hb | sx | o-b | 1.50 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Encyonema minutum (Hilse ex Rabenh.) D.G. Mann | 0 | 0 | 0 | 0 | 0 | 3 | B | - | st-str | ind | i | sx | o | 1.20 | o-e | ate | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Encyonopsis falaensis (Grunow) Krammer | 0 | 1 | 0 | 0 | 1 | 0 | B | - | - | str | - | hb | es | o | 1.00 | o-m | ats | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Entomoneis alata (Ehrenberg) Ehrenberg | 0 | 0 | 0 | 0 | 1 | 3 | P-B | - | st | alf | mh | - | b | 2.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Species                                      | K.Osada | 0 | 0 | 0 | 0 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|----------------------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Entomoneis oritata (Bailey) Reimer           | 3       | 3 | 0 | 0 | 0 | 0 | B | - | - | - | - | - | - | - | - | - | - | - | - | 1.50| o-m | ats |
| Entomoneis paludosa (W.Smith) Reimer var. paludosa | 3       | 0 | 0 | 0 | 0 | 0 | P-B | - | - | - | - | - | - | - | - | - | - | - | - | - | 2.50| m | - |
| Entomoneis paludosa var. duplex (Donkin) Makarova & Achmetova | 3       | 0 | 3 | 0 | 3 | 0 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Entomoneis paludosa var. subsalina (Cleve) Krammer | 0       | 0 | 3 | 0 | 0 | 3 | B | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Eolima minima (Grunow) Lange-Bertalot & W.Schiller | 0       | 0 | 0 | 0 | 3 | 0 | B | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Eucampia glacialis F.Meister Reimer           | 0       | 0 | 0 | 0 | 0 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Eucampia pectinialis (Kützing) Rabenhorst     | 0       | 0 | 0 | 0 | 0 | 1 | B | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Eucampia pseudopectinialis Hustedt            | 0       | 0 | 0 | 0 | 0 | 1 | B | cool | str | acf | hb | - | x-o | 0.40| o-m | ats |
| Eucampia vanheurckii R.M.Patrick              | 0       | 0 | 0 | 0 | 0 | 3 | B | temp | st-str | acf | i | sx | o | 1.10| o-m | ats |
| Falcularia reichardtii (Grunow)               | 0       | 0 | 0 | 0 | 3 | 0 | P-B | st | alf | i | sx | b-o | 1.7 | o-m | ate |
| Falcularia subhamulata (Grunow) D.G.Mann      | 0       | 0 | 0 | 0 | 0 | 3 | B | - | - | - | - | - | - | - | o-a | 1.80| - | - |
| Fragilaria capucina Desmazières B.Petersen   | 0       | 0 | 3 | 0 | 3 | 0 | P-B | Ep | st-str | alf | i | sx | o-a | 1.95| e   | ate |
| Fragilaria vaucheriae (Kützing) D.M.Williams & Round | 0       | 0 | 3 | 3 | 0 | 0 | P-B | - | str | ind | hb | - | o | 1.30| o-e | ats |
| Fragilaria viridis (Ralls) D.M.Williams & Round | 0       | 0 | 3 | 0 | 0 | 0 | P-B | - | str | ind | i | es | x-o | 0.40| o-m | ats |
| Gomphonema acuminatum var. brebissonii (Kützing) Cleve | 0       | 0 | 0 | 0 | 1 | 3 | B | - | st | ind | i | - | b | 2.00| - | - |
| Gomphonema capitatum Ehrenberg                | 0       | 0 | 0 | 3 | 0 | 0 | B | temp | - | alf | i | sx | o-b | 1.40| - | - |
| Gomphonema constrictum Ehrenberg var. constrictum | 0       | 0 | 0 | 0 | 0 | 3 | B | - | - | - | i | - | - | - | - | - | - | - | - | - |
| Gomphonema constrictum var. capitatum (Ehrenberg) Grunow | 0       | 0 | 0 | 0 | 3 | 0 | B | - | - | - | i | - | - | - | - | - | - | - | - | - |
| Gomphonema gracile Ehrenberg                 | 0       | 0 | 0 | 3 | 0 | 0 | B | temp | st | alf | i | es | x-b | 0.80| m | ats |
| Gomphonema grunowicii R.M.Patrick & Reimer    | 0       | 0 | 3 | 0 | 0 | 3 | B | temp | - | alf | i | - | - | 2.00| - | - |
| Gomphonema intricatum Kützing                | 0       | 1 | 0 | 3 | 0 | 0 | B | - | st-str | ind | i | es | o | 1.10| - | - |
| Gomphonema lagenula Kützing                   | 0       | 0 | 0 | 0 | 3 | 0 | B | - | - | - | - | - | - | - | - | - | - | - | - | - | m |
| Gomphonema paraleum (Kützing) Kützing         | 0       | 0 | 3 | 3 | 0 | 0 | B | temp | str | ind | i | es | b | 2.35| o-m | hne |
| Gomphonema tergestinum (Grunow) Fricke        | 0       | 0 | 0 | 0 | 3 | 5 | B | - | str | ind | i | es | o | 1.30| o-m | ats |
| Species                          | Location/Authors                          | Cool | St-Str | Alf | Es | O-A | Temp | Me | Ate |
|---------------------------------|-------------------------------------------|------|--------|-----|----|-----|------|----|-----|
| Gyrosigma acuminatum (Kützing)  | Rabenhorst var. acuminatum               | 1.95 |        |     |    |     |      |    |     |
| Gyrosigma acuminatum var.      | galicium (Grunow) Cleve                   |      |        |     |    |     |      |    |     |
| Gyrosigma kuetzingii (Grunow)  | Cleve                                     |      |        |     |    |     |      |    |     |
| Gyrosigma peisonze (Grunow)    | Hustedt                                   |      |        |     |    |     |      |    |     |
| Gyrosigma scalproides          | (Rabenhorst) Cleve                        |      |        |     |    |     |      |    |     |
| Halamphora acutiassa (Kützing) | Levkov                                    |      |        |     |    |     |      |    |     |
| Halamphora transscapica        | (J.B.Petersen) Q.-M.You & Kociolek        |      |        |     |    |     |      |    |     |
| Halamphora veneta (Kützing)    | Levkov                                    |      |        |     |    |     |      |    |     |
| Hantzschia spectabilis         | (Ehrenberg) Hustedt                       |      |        |     |    |     |      |    |     |
| Hantzschia weiprechtti Grunow  |                                           |      |        |     |    |     |      |    |     |
| Hippodonta luseburgensis       | (Grunow) Lange-Bertalot, Metzeltin, & A.Witkowski |    |        |     |    |     |      |    |     |
| Iconella linearis (W.Smith)    | Ruck & Nakov                              |      |        |     |    |     |      |    |     |
| Kortkrammeria aequalis         | (W.Smith) Bahls                           |      |        |     |    |     |      |    |     |
| Lacustricella lacustris (W.Gregory) Lange-Bertalot & Kulikovskiy | 5.00 |      |     |    |    | 0.10 |    |    |     |
| Luticola kotschyi var. robusta | (J.Y.Li & Y.Z.Qi)                         |      |        |     |    |     |      |    |     |
| Melosira undulata (Ehrenberg)  | Kützing                                   |      |        |     |    |     |      |    |     |
| Melosira variaus C.Agardh      |                                           |      |        |     |    |     |      |    |     |
| Naricula arenaria Donkin       |                                           | 1.00 |        |     |    |     |      |    |     |
| Naricula cincta (Ehrenberg)    | Ralfs                                     |      |        |     |    |     |      |    |     |
| Naricula concentrica J.R.Carter |                                           | 1.00 |        |     |    |     |      |    |     |
| Naricula cryptocephala         | Kützing                                   | 0.30 |        |     |    |     |      |    |     |
| Naricula gotlandica Grunow     |                                           | 2.10 |        |     |    |     |      |    |     |
| Naricula gregoria Donkin       |                                           | 2.00 |        |     |    |     |      |    |     |
| Naricula kurelica var.         | baicalensis Skvortsov & Meyer             |      |        |     |    |     |      |    |     |
| Naricula kelbei Meister        |                                           |      |        |     |    |     |      |    |     |
| Naricula mueonei R.M.Patrick   |                                           | 1.00 |        |     |    |     |      |    |     |
| Naricula oblonga (Kützing)     | Kützing                                   |      |        |     |    |     |      |    |     |
| Naricula radiosa Kützing       |                                           | 1.30 |        |     |    |     |      |    |     |
| Naricula restellata Kützing    |                                           | 1.60 |        |     |    |     |      |    |     |
| Species                                      | Brightness | Striations | Adrotation | Dimensions (μm) | Other Observations |
|----------------------------------------------|------------|------------|------------|----------------|-------------------|
| *Navicula rotaena* (Rabenh.)                 | 0          | 0          | 0          | 3              | 0                 |
| *Navicula slesicensis* Grunow                | 0          | 0          | 0          | 1              | 0                 |
| *Navicula pusilla* (Grunow) Krammer           | 0          | 3          | 0          | 0              | 0                 |
| *Nitzschia acicularis* (Kützing)             | 0          | 3          | 0          | 0              | 0                 |
| *Nitzschia angulata var. curta* Grunow in Van Heurck | 0          | 0          | 3          | 0              | 0                 |
| *Nitzschia dissipata* (Kützing) Rabenhorst    | 0          | 3          | 3          | 0              | 0                 |
| *Nitzschia intermedia* Hantzsch              | 0          | 0          | 0          | 0              | 3                 |
| *Nitzschia lorentiana var. subtilis* Grunow   | 0          | 0          | 3          | 0              | 0                 |
| *Nitzschia palaea* var. debilis (Kützing) Grunow | 0          | 0          | 0          | 0              | 0                 |
| *Nitzschia palea* Grunow                     | 0          | 3          | 3          | 0              | 0                 |
| *Nitzschia recta* Hantzsch ex Rabenhorst      | 0          | 0          | 0          | 3              | 0                 |
| *Nitzschia sigma* (Kützing) W.Smith           | 0          | 0          | 3          | 0              | 0                 |
| *Nitzschia sublinearis* Hustedt               | 0          | 0          | 0          | 3              | 0                 |
| *Nitzschia vermicularis* (Kützing) Hantzsch   | 0          | 0          | 3          | 0              | 3                 |
| *Nitzschia vitrea* G.Norman                  | 0          | 0          | 0          | 3              | 0                 |
| *Nupela neogracilina* Kulikovskiy & Lange-Bertalot | 0          | 0          | 0          | 5              | 0                 |
| *Odontium anceps* (Ehrenberg) Ralfs           | 0          | 3          | 0          | 0              | 0                 |
| *Odontium hyemale* (Roth) (Kützing)           | 0          | 3          | 0          | 0              | 3                 |
| *Pantoeckielia kuetzingiana* (Twaiates) K.T.Kiss & E.Ács | 0          | 3          | 1          | 0              | 0                 |
| *Pantoeckielia rossii* (H.Håkansson) K.T.Kiss & E.Ács | 0          | 0          | 0          | 0              | 6                 |
| *Paralia sabrosa* (Ostrup) Meloceva           | 0          | 3          | 0          | 0              | 0                 |
| *Paribellus protractus* (Grunow) Witkowski, Lange-Bertalot & Metzelin | 0          | 0          | 0          | 3              | 0                 |
| *Peroniopsis heribaudii* J.Brun & M.Peragallo Hustedt | 0          | 0          | 0          | 1              | 3                 |
| *Pinularia angulosa* Krammer                  | 0          | 0          | 0          | 0              | 3                 |
| *Pinularia borealis* Ehrenberg                | 0          | 3          | 3          | 0              | 0                 |
| Species                                      | Numbers | Str | Temp | Str-St | Ind | Alf | Sol | Ot | Me | Ate |
|----------------------------------------------|---------|-----|------|-------|-----|-----|-----|----|----|-----|
| *Pinnularia brebissonii*                    | 3 3 0 0 0 0 0 | B    | cool | st-str | ind | i   | -   | p-a| -  | -   |
| (Kützing) Rabenhorst                        |         |     |      |       |     |     |     |    |    |     |
| *Pinnularia microtauroni*                    | 0 0 0 3 3 0 0 | P-B  | temp | st-str | ind | i   | sp  | o-x| 0.70| ot  | ate |
| (Ehrenberg) Cleve                           |         |     |      |       |     |     |     |    |    |     |
| *Pinnularia orioda*                         | 0 0 3 0 0 0 0 | B    | -    | -    | neu | i   | -   | o  | 1.00| ot  | -   |
| (Krammer)                                  |         |     |      |       |     |     |     |    |    |     |
| *Pinnularia sudetica*                       | 0 0 3 3 0 0 0 | B    | -    | -    | acf | I   | x-o | 0.40| o-m| -   |     |
| Hilse                                       |         |     |      |       |     |     |     |    |    |     |
| *Pleurosigma laevis*                        | 5 5 0 0 0 0 0 | B    | temp | -    | alf | mh  | -   | o  | 1.00| e   | -   |
| (Ehrenberg) Compere                         |         |     |      |       |     |     |     |    |    |     |
| *Psammocystidiolum marginulatum*            | 0 0 0 0 0 3 5 | B    | -    | st-str | alf | i   | es  | o-a| 1.90| me  | ate |
| (Grunow) Bubkliyarova & Round               |         |     |      |       |     |     |     |    |    |     |
| *Rhizosphenia abbreviata*                    | 0 0 5 3 0 3 0 | B    | -    | st-str | alf | i   | es  | o-a| 1.90| me  | -   |
| (C.Agardh) Lange-Bertalot                   |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora americana*                       | 0 0 0 0 1 0 0 | B    | -    | str  | alf | i   | -   | o-b| 1.50| ot  | -   |
| (Ehrenberg) D.G.Mann                        |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora bacillum*                        | 0 0 0 0 0 3 0 | B    | -    | st-str | alf | i   | sx  | o-b| 1.50| me  | -   |
| (Ehrenberg) D.G.Mann                        |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora lambia*                         | 0 0 3 0 0 0 0 | B    | -    | -    | i   | -   | -   | -  | -   | -   | -   |
| Metzeltin & Lange-Bertalot                  |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora malata*                         | 0 0 0 0 3 5 0 | B    | -    | st-str | ind | hl  | es  | o-a| 1.90| o-m| -   |     |
| (Krasse) Lange-Bertalot                     |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora papula*                         | 0 0 0 0 3 0 0 | B    | eterm| st-str | ind | hl  | sx  | o-a| 1.90| me  | ate |
| (Kützing) Mereschkovsky                     |         |     |      |       |     |     |     |    |    |     |
| *Sellaphora rostrata* (Hustedt) J.R.Johansen| 0 0 0 0 0 3 0 | B    | temp | -    | ind | hl  | -   | o-a| 1.90| -   | -   |     |
| *Sellaphora wummensis*                      | 0 0 0 0 5 0 0 | B    | -    | -    | ind | hl  | es  | o-a| 1.90| me  | -   |     |
| J.R.Johansen                                |         |     |      |       |     |     |     |    |    |     |
| *Stauroneis aniceps*                        | 1 3 0 3 0 0 0 | P-B  | -    | st-str | ind | i   | sx  | o  | 1.30| o-m| ate |
| Ehrenberg                                   |         |     |      |       |     |     |     |    |    |     |
| *Stauroneis parvula*                        | 3 0 0 0 3 0 0 | B    | -    | st-str | ind | mh  | sx  | o  | 1.00| -   | -   |     |
| (Grunow) Cleve                              |         |     |      |       |     |     |     |    |    |     |
| *Stauroneis smithii var. karellica*         | 0 0 0 3 0 0 0 | B    | cool | -    | -   | i   | -   | o  | 1.00| ot  | -   |     |
| Wilsouch & Kolbe                            |         |     |      |       |     |     |     |    |    |     |
| *Stauronira subsalina*                       | 0 0 0 3 0 0 0 | P-B  | -    | -    | alf | i   | -   | o  | 1.00| o-m| -   |     |
| (Hustedt) Lange-Bertalot                    |         |     |      |       |     |     |     |    |    |     |
| *Stauronirella martyi*                      | 0 0 0 0 1 1 1 | P-B  | -    | st-str | alf | i   | es  | o  | 1.10| o-m| -   |     |
| (Heribaud) E.A.Morales & K.M.Manoylov       |         |     |      |       |     |     |     |    |    |     |
| *Stenopterobia intermediata* (Lewis) Van Fleurck. | 0 0 0 3 0 0 0 | B    | -    | -    | acf | hb  | -   | x-o| 0.40| -   |     |
| *Surirella angustata*                        | 0 0 0 0 3 3 3 | P-B  | -    | st-str | alf | i   | -   | b-o| 1.70| e   | -   |     |
| Kützing                                     |         |     |      |       |     |     |     |    |    |     |
| *Surirella didyma var. minor*               | 0 0 0 0 3 0 0 | B    | -    | -    | i   | -   | -   | -  | -   | -   | -   |     |
| Skvortzov                                   |         |     |      |       |     |     |     |    |    |     |
| *Surirella grunowii*                        | 0 0 0 0 0 0 1 | B    | -    | -    | ind | i   | sx  | b  | 2.00| o-m| -   |     |
| Kulikovskiy & Lange-Bertalot & Vitkovski    |         |     |      |       |     |     |     |    |    |     |
| *Surirella ovalis* Brébisson*               | 0 0 3 0 0 0 0 | P-B  | -    | st-str | alf | l   | es  | a  | 3.00| me  | ate |
| *Surirella salina* W.Smith                  | 0 0 0 3 0 0 0 | B    | -    | st-str | ind | i   | es  | o-a| 1.85| -   | -   |     |
| *Surirella splendida* (Ehrenberg) Kützing    | 3 0 3 0 3 0 0 | P-B  | -    | st-str | alf | i   | -   | o-x| 0.70| me  | -   |     |
| *Surirella turgida* var. skvortzowii (Meyer) Kisselev | 0 0 0 0 0 0 3 | -    | -    | -    | -   | -   | -   | -  | -   | -   | -   |     |
| Synedra famelica Kützing                     | 0 0 5 0 0 0 0 | P-B  | -    | str  | alf | i   | es  | o  | 1.30| m   | ats |     |
| *Tabellaria fenestrata* (Lyringbye) Kützing  | 0 0 3 3 0 0 0 | P-B  | -    | st-str | ind | i   | es  | x  | 0.30| o-m| ats |     |
Tabellaria flocculosa (Roth) Kützing  0 0 3 0 3 0 P-B  eterm  st-str  acf  i  es  o-x  0.60  ot  ats
Tabularia tabulata (C.Agardh) Snoeijls  0 1 0 0 0 1  -  -  -  -  mh  -  -  -  -
Tryblionella debilis Arnott ex O'Meara  0 3 0 0 0 0  P-B  -  ae  alf  i  es  a-o  2.60  -  ate
Ulnaria delicatissima var. angustissima (Grunow) Aboal & P.C.Silva  0 0 0 0 3 0  P  -  -  alf  i  es  b-o  1.70  o-m  -
Ulnaria ulna (Nitzsch) Compère var. ulna  3 3 3 3 3 0  P-B  temp  st-str  ind  i  es  b  2.25  o-e  ate
Ulnaria ulna var. aequalis (Kützing) Aboal  0 0 0 0 3 0  P-B  -  -  alf  i  sp  b  2.00  o-m  -
Ulnaria ulna var. spathulifera (Grunow) Aboal  3 0 0 0 3 0  B  -  -  alf  i  -  b-o  1.70  -  -

Note: Khatirchi, Pakhtakor, Navoi, Gizduvon, Bukhara, Karakul – sampling sites. Abbreviation for ecological groups: Habitat preferences (Hab): B, benthic; P-B, planktonic-benthic; P, planktonic. Water temperature (T): cool, cool-loving species; temp, temperate temperature water inhabitants; eterm, eurythermic species, warm, warm water inhabitants. Streaming and Oxygenation (Oxy): aer, aerophiles, str, streaming waters inhabitant; st-str, low streaming waters inhabitant; st, standing water inhabitant. Water pH (pH): acf, acidophilous species; ind, indifferent; alf, alkaliphilic species; alb, alkaliobiontes. Water salinity (Sal): hb, halophobe; i, oligohalobious-indifferent; hl, oligohalobious-halophilous; mh, mesohalobious. Organic pollution, Watanabe (D): sx, saproxenes, es, euryhapsobies; sp, saprophiles. Organic pollution and self-purification zones by Sládeček (Sap): indicators of Class of Water Quality I: x – 0.0 – xenosaprobiont; x-o – 0.4 – xeno-oligosaprobiont; Class of Water Quality II: o-x – 0.6 – oligo-xenosaprobiont; x-b – 0.8 – xeno-betasaprobiont; o – 1.0 – oligosaprobiont; o-b – 1.4 – oligo-beta-mesosaprobiont; Class of Water Quality III: b-o – 1.6 – beta-oligosaprobiont; o-a – 1.8 – oligo-alpha-mesosaprobiont; b – 2.0 – beta-mesosaprobiont; b-a – 2.4 – beta-alpha-mesosaprobiont; Class of Water Quality IV: a-o – 2.6 – alpha-oligosaprobiont; a – 3.0 – alpha-mesosaprobiont. Index saprobity s (S): species-specific index saprobity according Sládeček. Trophic state (Tro): ot, oligotrophentic; o-m, oligo-mesotrophentic; m, mesotrophentic; me, meso-eutrophentic; e, eutrophentic; o-e, oligo- to eutrophentic. Nutrition type as Nitrogen uptake metabolism (Aut-Het): ats, nitrogen-autotrophic taxa, tolerating very small concentrations of organically bound nitrogen; ate, nitrogen-autotrophic taxa, tolerating elevated concentrations of organically bound nitrogen; hne, facultatively nitrogen-heterotrophic taxa, needing periodically elevated concentrations of organically bound nitrogen; hce, nitrogen-heterotrophic taxa, needing elevated concentrations of organically bound nitrogen.