Electronic supplementary material, Table 1 The geographic coordinates of individual sampling sites.

| geographic coordinates  | of individual sampling sites. |
|-------------------------|-------------------------------|
| Pool - Site within pool | Geographic coordinates        |
| Swamp N                 | Nature Reserve                |
| 1-1                     | 50.57583° N, 14.67102° E      |
| 1-2                     | 50.57589° N, 14.67093° E      |
| 1-3                     | 50.57594° N, 14.67098° E      |
| 2-1                     | 50.57604° N, 14.66999° E      |
| 2-2                     | 50.57604° N, 14.66989° E      |
| 2-3                     | 50.57592° N, 14.66985° E      |
| 3-1                     | 50.57894° N, 14.66730° E      |
| 3-2                     | 50.57907° N, 14.66721° E      |
| 3-3                     | 50.57910° N, 14.66744° E      |
| Na Čihadlo              | e Nature Reserve              |
| 1-1                     | 50.83292° N, 15.23148° E      |
| 1-2                     | 50.83285° N, 15.23153° E      |
| 1-3                     | 50.83284° N, 15.23145° E      |
| 2-1                     | 50.83283° N, 15.23080° E      |
| 2-2                     | 50.83279° N, 15.23081° E      |
| 2-3                     | 50.83281° N, 15.23080° E      |
| 3-1                     | 50.83333° N, 15.23065° E      |
| 3-2                     | 50.83339° N, 15.23088° E      |
| 3-3                     | 50.83335° N, 15.23100° E      |

Electronic supplementary material, Table 2 The list of desmid taxa found in the individual sampling sites during the investigation.

| Locality  | iiu tax | a rour |   | n the individual sampling sites during the investigation.  Wamp Nature Reserve Na Čihadle N |   |    |   |     |     |     |     | e Nati | ıre Re |   |    |   |   |     |
|---|---------|--------|---|---|---|----|---|-----|-----|-----|-----|--------|--------|---|----|---|---|-----|
| Pool - Site within pool                                 | 1-1     | 1-2    |   | 2-1   |   |    |   | 3-2 | 3-3 | 1-1 | 1-2 |        |        |   |    |   |   | 3-3 |
| Taxon   |         |        |   |   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Actinotaenium cruciferum (De Bary) Teiling              |         | X      |   |   |   |    |   |     |     | ×   |     | ×      | ×      | × | X  | × | × | ×   |
| Actinotaenium cucurbita (Ralfs) Teiling                 | ×       | ×      | × | ×   | × | ×  |   | ×   | ×   | ×   | ×   | ×      | ×      | × | ×  | × | × | ×   |
| Actinotaenium silvae-nigrae (Rabanus) Kouwets et Coesel |         |        |   |   |   |    |   |     |     |     |     |        |        |   | ×  |   | × | ×   |
| Closterium cf. abruptum W. West                         |         | ×      |   |   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium angustatum Ralfs                             |         |        |   | ×   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium attenuatum Ralfs                             |         | ×      |   | ×   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium baillyanum (Ralfs) Bréb.                     | ×       | ×      | × | ×   | × | ×  | × |     |     |     |     |        |        |   |    |   |   |     |
| Closterium calosporum Wittr.                            | ×       | ×      |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium costatum Ralfs                               |         |        |   | ×   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium dianae Ralfs                                 | ×       | ×      |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium directum W. Archer                           |         |        |   |   |   |    |   |     |     |     |     |        | ×      | × | ×  | × | × | ×   |
| Closterium gracile Ralfs                                |         | ×      | × | ×   | × | ×  | × | ×   |     |     |     |        | ^      | ^ | ,, | ^ | , |     |
| Closterium juncidum Ralfs                               |         | ×      | × | ×   | × | ×  | × | ×   | ×   |     |     |        |        |   |    |   |   |     |
| Closterium Junciaum Raifs Closterium lineatum Raifs     |         | ×      | ^ | ×   | × | ×  | ^ | ^   | ^   |     |     |        |        |   |    |   |   |     |
| Closterium lunula Ralfs                                 |         | ^      |   | ×   | × | ^  |   |     |     |     |     |        |        |   |    |   |   |     |
|   |         |        |   |   | × | ~  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium cf. macilentum Bréb.                         |         |        |   | ×   |   | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium navicula (Bréb.) Lütkem.                     |         |        |   | ×   |   | ., |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium parvulum Nägeli                              |         |        |   | ×   |   | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium pronum Bréb.                                 |         |        |   |   |   |    |   |     |     |     |     |        |        |   |    |   |   | ×   |
| Closterium setaceum Ralfs                               |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Closterium striolatum Ralfs                             | ×       | ×      | × | ×   |   | ×  | × | ×   | ×   | ×   | ×   | ×      | ×      | × | ×  | × | × | ×   |
| Cosmarium amoenum Ralfs                                 |         | ×      | × | ×   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium angulosum Bréb.                               |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium blyttii Wille                                 |         | ×      |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium contractum Kirchn.                            |         |        |   | ×   | × | ×  | × |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium difficile Lütkem.                             |         |        |   |   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium discrepans Šťastný et Kouwets                 |         | ×      | × | ×   |   | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium goniodes var. subturgidum W. et G. S. West    |         |        |   |   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium margaritiferum Ralfs                          |         |        |   |   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium messikommeri Coesel                           |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium obsoletum (Hantzsch) Reinsch                  |         | ×      | × | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium ordinatum (Børges.) W. et G .S. West          |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium ornatum Ralfs                                 |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium paragranatoides Skuja                         |         |        |   | ×   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium prominulum var. subundulatum W. et G. S. West | ×       | ×      |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium pseudoornatum B. Eichler et Gutw.             |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium pseudopyramidatum P. Lundell                  |         | ×      | × | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium cf. pseudoretusum F. Ducell                   |         |        |   | ×   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium pyramidatum Ralfs                             |         | ×      |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium regnellii Wille                               |         |        |   |   |   | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium sphagnicolum W. et G. S. West                 |         | ×      | × |   |   | ×  |   |     |     | ×   |     |        |        |   | ×  | × |   |     |
| Cosmarium tinctum Ralfs                                 | ×       | ×      | × | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium sp. 1   |         | ×      |   | ×   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium sp. 2 (smaller C. contractum)                 |         |        |   | ×   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cosmarium sp. 3   |         |        |   | ×   | × |    |   |     |     |     |     |        |        |   |    |   |   |     |
| Cylindrocystis brebissonii De Bary                      |         | ×      | × |   |   |    | × | ×   | ×   | ×   | ×   | ×      | ×      | × | ×  | × | × | ×   |
| Cylindrocystis crassa De Bary                           |         |        |   |   |   |    |   |     |     |     | ×   |        |        |   |    |   |   |     |
| Cylindrocystis gracilis I. Hirn                         |         | ×      |   |   |   |    |   |     |     | ×   | ×   | ×      | ×      | × | ×  | × | × | ×   |
| Euastrum ansatum Ralfs                                  |         |        |   | ×   | × | ×  |   |     |     |     |     |        |        |   |    |   |   |     |
| Euastrum binale Ralfs                                   |         | ×      |   |   |   |    |   |     | ×   | ×   | ×   |        | ×      | × | ×  | × | × | ×   |
|   |         |        |   |   |   |    |   |     |     |     |     |        |        |   |    |   |   |     |

| Euastrum denticulatum F. Gay                             |   |   |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Euastrum elegans Ralfs                                   |   |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Euastrum gayanum De Toni                                 |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Euastrum humerosum Ralfs                                 |   |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Euastrum insigne Ralfs                                   |   |   |   |   |   |   |   |   |   | × | × | × | × |   | × | × | ) |
| Euastrum oblongum Ralfs                                  |   |   |   | × |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Euastrum pectinatum Ralfs                                |   |   |   | × | × |   | × | × |   |   |   |   |   |   |   |   |   |
| Euastrum pinnatum Ralfs                                  |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Euastrum verrucosum Ralfs                                |   |   |   |   |   |   |   | × |   |   |   |   |   |   |   |   |   |
| Haplotaenium minutum (Ralfs) Bando                       |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Haplotaenium rectum (Delponte) Bando                     | × | × |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Mesotaenium endlicherianum Nägeli                        |   |   |   |   |   |   |   |   |   |   |   |   | × | × | × |   | ) |
| Micrasterias jenneri Ralfs                               | × | × |   |   |   |   | × | × | × |   |   |   |   |   |   |   |   |
| Micrasterias oscitans Ralfs                              |   | × |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Micrasterias rotata Ralfs                                |   | × |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Micrasterias thomasiana var. notata (Nordstedt) Grönblad |   | × |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Micrasterias truncata Ralfs                              | × | × | × |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Netrium digitus Itzigs. et Rothe                         |   | × | × | × |   |   |   |   |   | × | × | × | × | × | × | × | ) |
| Netrium oblongum (De Bary) Lütkem.                       |   | × |   |   |   |   |   |   |   |   |   |   | × | × | × |   | ) |
| Penium cylindrus Ralfs                                   |   | × | × | × | × | × |   |   |   |   |   |   |   | × |   |   |   |
| Penium spirostriolatum J. Barker                         |   |   |   |   | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Pleurotaenium ehrenbergii (Ralfs) De Bary                |   |   |   |   | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum aculeatum Ralfs                              |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum hirsutum Ralfs                               |   |   |   |   |   |   |   |   |   | × |   |   | × | × |   | × |   |
| Staurastrum hystrix Ralfs                                |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum inflexum Bréb.                               |   | × |   | × | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum micron W. et G. S. West                      |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum minimum Coesel                               |   |   |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum polymorphum Ralfs                            |   | × |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum punctulatum Ralfs                            | × | × | × |   |   |   | × | × | × |   |   |   |   |   |   |   |   |
| Staurastrum scabrum Ralfs                                | × | × |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum simonyi Heimerl                              | × | × | × | × | × | × |   | × | × |   |   |   |   |   |   |   |   |
| Staurastrum teliferum Ralfs                              |   | × |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum tetracerum Ralfs                             |   |   |   | × | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum sp. 1  |   |   |   | × |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum sp. 2  |   |   |   |   | × |   |   |   |   |   |   |   |   |   |   |   |   |
| Staurastrum sp. 3  |   |   |   |   |   |   |   |   |   |   |   |   | × |   |   |   |   |
| Staurodesmus dejectus (Ralfs) Teiling                    |   | × |   | × | × | × |   |   |   |   |   |   |   |   |   |   |   |
| Staurodesmus extensus (Borge) Teiling                    |   |   |   |   | × | × |   |   |   |   |   | × |   |   | × | × |   |
| Staurodesmus incus (Bréb.) Teiling                       | × | × | × | × | × | × |   |   | × |   |   |   | × |   |   | × |   |
| Tetmemorus brebissonii Ralfs                             |   |   |   |   |   |   |   |   |   |   |   |   |   | × |   |   |   |
| Tetmemorus granulatus Ralfs                              | × | × | × | × | × | × | × | × | × |   | × | × |   |   |   |   |   |
| Tetmemorus laevis Ralfs                                  | × | × | × |   |   | × | × | × | × | × | × | × | × | × | × | × |   |
| Xanthidium antilopaeum var. laeve Schmidle               |   |   |   |   |   |   |   |   |   |   |   |   |   | × | × |   |   |
| Xanthidium armatum Ralfs                                 | × | × | × | × | × | × |   | × | × | × | × | × | × | × | × | × | ) |