

| Specimens   | tufA                  | Study                 |
|---|-----------------------|-----------------------|
| <i>Udotea geppiorum</i> Maui, Hawaii ARS1416/TS0041 | MK460430 <sup>1</sup> | newly generated       |
| <i>Udotea geppiorum</i> Fiji DML40191               | MK460431 <sup>1</sup> | newly generated       |
| <i>Udotea geppiorum</i> Oahu, Hawaii ARS8534        | MN202616              | newly generated       |
| <i>Udotea geppiorum</i> Guam CS405A/TS2210          | MK460432 <sup>1</sup> | newly generated       |
| " <i>Udotea argentea</i> " Oahu, Hawaii BBM1        | MN202614              | newly generated       |
| " <i>Udotea argentea</i> " Oahu, Hawaii BBM2        | MN202615              | newly generated       |
| <i>Udotea geppiorum</i> Hawaii TS0398               | KU361932              | Sauvage et al. 2016   |
| <i>Udotea cyathiformis</i> NOU087107                | MG784760              | Lagourgue et al. 2018 |
| <i>Rhipocephalus oblongus</i> NOU087060             | MG784732              | Lagourgue et al. 2018 |
| <i>Penicillus capitatus</i> NOU087079               | MG784726              | Lagourgue et al. 2018 |
| <i>Penicillus dumetosus</i> NOU087147               | MG784795              | Lagourgue et al. 2018 |
| <i>Udotea argentea</i> HV04251                      | MH591111*             | Cremen et al. 2018    |
| <i>Udotea flabellum</i> HV02674                     | MH591112*             | Cremen et al. 2018    |
| <i>Udotea</i> sp TZ0819                             | MH591113*             | Cremen et al. 2018    |
| <i>Tydemania expeditionis</i> FL1151                | NC_026796*            | Cremen et al. 2018    |
| <i>Udotea dotyi</i> NOU087113                       | MG784770              | Lagourgue et al. 2018 |
| <i>Udotea dixonii</i> NOU087052                     | MG784701              | Lagourgue et al. 2018 |
| <i>Rhipocephalus phoenix</i> NOU087035              | MG784790              | Lagourgue et al. 2018 |
| <i>Udotea conglutinata</i> NOU087171                | MG784759              | Lagourgue et al. 2018 |
| <i>Penicillus pyriformis</i> NOU087108              | MG784757              | Lagourgue et al. 2018 |
| <i>Udotea occidentalis</i> NOU087054                | MG784803              | Lagourgue et al. 2018 |
| <i>Udotea</i> sp LL2018 NOU087141                   | MG784777              | Lagourgue et al. 2018 |
| <i>Flabellia petiolata</i> HV02102                  | MH591083*             | Cremen et al. 2018    |
| <i>Rhipidosiphon</i> sp1 Hawaii ARS08566            | KY205945              | Wade & Sherwood 2017  |
| <i>Rhipidosiphon</i> sp2 Hawaii ARS08204            | KY205930              | Wade & Sherwood 2017  |
| <i>Chlorodesmis caespitosa</i> Hawaii ARS01229      | KY205928              | Wade & Sherwood 2017  |
| <i>Poropsis</i> sp Hawaii TS0090/ARS1457            | KU361928              | Sauvage et al. 2016   |

<sup>1</sup> newly generated for the present study

<sup>2</sup> previously published as *Udotea* sp.

\* from chloroplast genome data