**Table S1**. List of species, sequence data and locality used for phylogenetic analysis of plastid *rbc*L gene and nuclear 18S RNA and their database accession number. In bold sequences generated in this study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Species | ID | Locality | *rbc*L | 18S |
| *Bangia atropurpurea* | - | Higashikawachi river, Shizuoka, Shizuoka, Japan | AB114641(a) | AB114639(a) |
| *B. fuscopurpurea* | - | Banda, Tateyama, Chiba, Japan | HQ687502(b) | HQ687561(b) |
| *Apophlaea lyallii* | - | Brighton Beach, Otago, New Zealand | AF534411(c) | AF076996(c) |
| *A. sinclairii* | - | Goat Island Bay, North Island, New Zealand | AF534410(c) | AF534424(c) |
| *Hildenbrandia angolensis* | CR20 | Rio Jaba, Costa Rica | AF107816(d) | AF108404(d) |
| *H. angolensis* | PHI1 | Sto. Ninjo Cold Spring, Camiguin, Philippines | AF534409(c) | AF534423(c) |
| *H. crouaniorum* | URUSW1 | Beach at José Ignacios, Uruguay | AF534407(c) | AF534419(c) |
| *H. occidentalis* | BCSW4 | Parkesville Bay, Vancouver Island, BC, Canada | AF534404(c) | AF534412(c) |
| *H. jigongshanensis* | KU-d24416(= SAGAMI01) | Douho river, Sagamihara, Kanagawa, Japan | LC565125(f) | LC565131(f) |
| *H. jigongshanensis* | KU-d24417(= SAGAMI02) | Douho river, Sagamihara, Kanagawa, Japan | LC565126(f) | LC565132(f) |
| *H. jigongshanensis* | KU-d24419(= TOGA01) | Toga river, Kobe, Hyogo, Japan | LC565119(f) | LC565127(f) |
| *H. jigongshanensis* | KU-d24420(= TOGA02) | Toga river, Kobe, Hyogo, Japan | LC565120(f) | LC565128(f) |
| *H. jigongshanensis* | HN15006 | Stream of Jigongshan Mountain, Henan province, China | KU573962(g) | KU573965(g) |
| *H. jigongshanensis* | HN15007 | Stream of Jigongshan Mountain, Henan province, China | KU573963(g) | KU573966(g) |
| *H. rivularis* | IR11 | Highway N18 at Gort R., Gort, Ireland | AF208805(h) | AF208824(h) |
| *H. rivularis* | WAL3 | Drefach, Wales | AF208814(h) | AF208830(h) |
| *H. rivularis* | SWE15 | Frbtuna Kyrksjo (lake), Sweden | AY028815(i) | AY028811(i) |
| *H. rubra* | CA1 | Brook’s Island, San Francisco Bay, CA, USA | AF107814(d) | AF108401(d) |
| *H. rubra* | NS1 | Herring Cove Lookoff, Halifax, NS, Canada | AF107825(d) | AF108412(d) |
| *H. rubra* | NISW1 | Strangford Lough, Northern Ireland | AF208799(h) | AF208819(h) |
| *H. rubra* | FRASW1 | Brest, France | AF208800(d) | AF208820(d) |
| *H. rubra* | SWESW1 | Stockholm Archipelago, outside Trosa, Sweden | AF208812(d) | AF208828(d) |
| *H. tahitiensis* sp. nov. | PF1507 | Tuaura River, Māhina, Tahiti, French Polynesia | **LC631948** | - |
| *H. tahitiensis* sp. nov. | PF1508 | Futaua River, Pīra'e, Tahiti, Society Islands, French Polynesia | **LC632058** | - |
| *H. tahitiensis* sp. nov. | PF1767 | Mahateaho River, Lieu Hitiaa, Vallée Paraura | **LC631949** | **LC631950** |

(a)Hanyuda *et al.* (2002), (b)Sutherland *et al.* (2002), (c)Sherwood & Sheath (2003), (d)Sherwood & Sheath (1999), (e)Nan *et al.* (2019), (f)Vieira *et al.* (2021), (g)Nan *et al.* (2017), (h)Sherwood & Sheath (2000), and (i)Sherwood *et al.* (2002).

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