

## Supplementary Material

### **A morphological and molecular study supports the recognition of *Rhipilia psammophila* sp. nov. and *Rhipilia baculifera* comb. nov. (Halimedaceae, Chlorophyta) from southern Australia**

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**Table S1. Taxon samples used in molecular analyses.**

<b>Taxon</b>	<b><i>rbcL</i></b>	<b><i>tufA</i></b>
<i>Acetabularia acetabulum</i>	HG518454	HG518471
<i>Acetabularia peniculus</i>	MH545193	MH545197
<i>Avrainvillea lacerata</i>	FJ432635	FJ432651
<i>Avrainvillea mazei</i>	KY509313	KY509313
<i>Avrainvillea nigricans</i>	FJ432636	FJ432652
<i>Avrainvillea</i> sp.HV04061	MH591114	MH591114
<i>Batophora oerstedii</i>	MH545262	MH545261
<i>Boodleopsis pusilla</i>	MH591103	MH591103
<i>Boodleopsis</i> sp. FL1161	MH591102	MH591102
<i>Boodleopsis</i> sp. H.0758	MH591104	MH591104
<i>Bryopsis hypnoides</i>	NC_013359	NC_013359
<i>Bryopsis plumosa</i>	NC_026795	NC_026795
<i>Bryopsis</i> sp. HV04063	KY819063	KY819063
<i>Callipsygma brevis</i>	MT783124	MT782750
<i>Callipsygma wilsonis</i>	MH591105	MH591105
<i>Caulerpa cliftonii</i>	KX808498	KX808498
<i>Caulerpa flexilis</i>	AJ512485	DQ652532
<i>Caulerpa manorensis</i>	KY819068	KY819068
<i>Caulerpa racemosa</i>	KT946602	KT946602
<i>Caulerpa sertularioides</i>	AY942170	FJ432654
<i>Caulerpa taxifolia</i>	AJ316279	AJ417939
<i>Caulerpa verticillata</i>	MH591106	MH591106
<i>Caulerpella ambigua</i>	FJ432638	FJ432655
<i>Chlorodesmis</i> cf. <i>hildebrandtii</i>	MT339677	MT340440
<i>Chlorodesmis</i> cf. <i>major</i>	MT339655	MT340408
<i>Chlorodesmis fastigiata</i>	KY819064	KY819064
<i>Chlorodesmis</i> sp2	MT339668	MT340424
<i>Chlorodesmis</i> sp3	MT339593	MT340305
<i>Codium arabicum</i>	MH591107	MH591107
<i>Codium simulans</i>	KT946603	KT946603
<i>Cymopolia barbata</i>	MH545302	MH545306
<i>Dasycladus</i> sp. HV04045	MH545327	MH545323
<i>Derbesia</i> sp. WEST4838	KX808497	KX808497
<i>Dichotomosiphon tuberosus</i>	MH591082	MH591082
<i>Flabellia petiolata</i>	MH591083	MH591083
<i>Glaukea argentea</i> 1	MH591111	MH591111
<i>Glaukea argentea</i> 2	MT339646	MT340396
<i>Halicoryne</i> sp. HV04044	MH545335	MH545356
<i>Halimeda cylindracea</i>	KM820145	KM820164
<i>Halimeda discoidea</i>	KX808496	KX808496
<i>Halimeda micronesica</i>	MH591088	MH591087
<i>Halimeda minima</i>	MH591101	MH591101
Johnson-sea-linkia profunda	MH591090	MH591090
<i>Kraftalia crassa</i>	MT783189	MT782827
<i>Kraftalia gracilis</i>	MT783184	MT782822
<i>Kraftalia orientalis</i>	MT783116	MT782738
<i>Kraftalia</i> sp1	MT783159	MT782794
<i>Kraftalia</i> sp2	MT783149	MT782781
<i>Kraftalia</i> sp3	MT783244	MT782889
<i>Kraftalia</i> sp4	MT783165	MT782799
<i>Kraftalia</i> sp5	MT783060	MT782679
<i>Kraftalia yaeyamensis</i>	MT783069	MT782687
<i>Lambia antarctica</i>	KU059765	KU059765
<i>Neomeris</i> sp. HV02668	KY495853	KY495872
<i>Ostreobium quekettii</i>	LT593849	LT593849
<i>Ostreobium</i> sp. HV05042	KY509314	KY509314
<i>Pedobesia clavaeformis</i>	MH591108	MH591108
<i>Penicillus capitatus</i>	MG784876	MG784799

<b>Taxon</b>	<b><i>rbcL</i></b>	<b><i>tufA</i></b>
<i>Penicillus dumetosus</i>	AY942175	MG784800
<i>Penicillus nodulosus</i>	MT339687	MT340451
<i>Penicillus pyriformis</i>	MG784842	MG784757
<i>Poropsis</i> sp1	MT339657	MT340412
<i>Pseudobryopsis hainanensis</i>	MH591092	MH591091
<i>Pseudochlorodesmis</i> sp. HV01306a	MH591094	MH591094
<i>Pseudochlorodesmis</i> sp. HV01306b	MH591096	MH591096
<i>Pseudochlorodesmis</i> sp. HV01306c	MH591097	MH591097
<i>Pseudocodium devriesii</i>	MH591109	MH591109
<i>Pseudocodium floridanum</i>	AM909692	AM909697
<i>Pseudocodium natalense</i>	AM909693	AM049969
<i>Pseudoderbesia arbuscula</i>	MH591098	MH591099
<i>Rhipidodesmis caespitosa</i>	MT339686	MT340450
<i>Rhipidosiphon floridensis</i>	MG784877	
<i>Rhipidosiphon glaucescens</i>		MT340395
<i>Rhipidosiphon javensis</i>	FJ432644	MT340410
<i>Rhipidosiphon</i> sp1	MT339682	MT340446
<i>Rhipidosiphon</i> sp2		MT340458
<i>Rhipidosiphon</i> sp6	MT339650	
<i>Rhipilia baculifera</i>	OR426990	OR427005
<i>Rhipilia coppejansii</i>	MT783105	MT782726
<i>Rhipilia diaphana</i>	MT783175	MT782812
<i>Rhipilia nigrescens</i>	FJ432646	FJ432658
<i>Rhipilia penicilloides</i>	MT783202	MT782842
<i>Rhipilia psammophila</i>	OR426992	OR427008
<i>Rhipilia</i> sp1	MT783177	MT782814
<i>Rhipilia</i> sp2	MT783056	MT782675
<i>Rhipilia</i> sp3	MT783139	MT782769
<i>Rhipilia tomentosa</i>	AY942164	
<i>Rhipiliella verticillata</i>	MT783197	MT782836
<i>Rhipiliopsisina stellifera</i>	MT783065	MT782684
<i>Rhipiliopsis cf.mortensenii</i>	MT783079	MT782699
<i>Rhipiliopsis corticata</i>		MT782670
<i>Rhipiliopsis papuensis</i>	MT783220	MT782860
<i>Rhipiliopsis peltata</i>		MT782811
<i>Rhipiliopsis</i> sp5	MT783182	MT782819
<i>Rhipiliopsis</i> sp6		MT782756
<i>Rhipiliopsis</i> sp7	MT783241	MT782886
<i>Rhipiliopsis</i> sp8		MT782874
<i>Rhipiliopsis</i> sp9		MT782671
<i>Rhipiliospina</i> sp1	MT783125	MT782751
<i>Rhipiliospina</i> sp2	MT783151	MT782783
<i>Rhipiliospina</i> sp3	MT783126	MT782752
<i>Rhipiliospina</i> sp4	MT783084	MT782704
<i>Rhipiliospina</i> sp5	MT783118	MT782741
<i>Rhipiliospina</i> sp6	MT783050	MT782667
<i>Rhypocephalus oblongus</i>	MG784824	MG784732
<i>Rhypocephalus phoenix</i>	MG784871	MT340360
<i>Tydemania expeditionis</i>	NC_026796	NC_026796
<i>Tydemania gardineri</i>	MT339667	MT340423
<i>Udotea conglutinata</i>	MG784844	MG784759
<i>Udotea cyathiformis</i>	MG784863	MG784782
<i>Udotea dixonii</i>	MG784835	MG784749
<i>Udotea dotyi</i>	MG784854	MG784770
<i>Udotea flabellum</i>	MH591112	MH591112
<i>Udotea geppiorum</i>	MT339626	MT340363
<i>Udotea glaucescens</i>	FJ432650	
<i>Udotea</i> sp1	MT456581	
<i>Udotea</i> sp2	MG784861	MG784780

<b>Taxon</b>	<b><i>rbcL</i></b>	<b><i>tufA</i></b>
<i>Udotea spinulosa</i>	AY942160	
<i>Udoteopsis maiottensis</i>	MT339674	MT340371
<i>Ventalia indica</i>	MT339633	MT340379
<i>Ventalia orientalis</i>	MT456572	MT340353
<i>Ventalia papillosa</i>	MT456570	MT340348
<i>Ventalia</i> sp. TZ0819	MH591113	MH591113
<i>Ventalia</i> sp1	MT339595	MT340309
<i>Ventalia</i> sp2	MT456574	MT340367
<i>Ventalia</i> sp3	MT456571	MT340352
<i>Ventalia</i> sp4	MT339698	MT340470

The taxon column specifies the species or in some cases where no species-level IDs could be obtained, the specimen number, or the species number designations from Lagourgue and Payri (2021).

## Reference

Lagourgue L, Payri CE (2021) Diversity and taxonomic revision of tribes Rhipileae and Rhipiliopsidae (Halimedaceae, Chlorophyta) based on molecular and morphological data. *Journal of Phycology* **57**, 1450–1471.

