

Revised checklist of marine algae (Chlorophyta, Rhodophyta and Ochrophyta) and seagrasses (Marine Angiosperma) of New Caledonia

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Abstract : The marine algae and seagrasses of New Caledonia are reviewed based on literature records and new surveys. 443 macroalgae species (Cyanobacteria excluded) representing 62 families, and 185 genera and 11 marine Angiosperms from reefs, lagoon and coastal environments are listed. Among these, 103 species are new records for the area, including a new genus, since the first comprehensive catalogue. This figure is likely to fall short of the actual total, as it does not include the majority of a rich, recently sampled, collection still remaining to be examined.

Résumé : Les algues et les Phanérogames marines de Nouvelle-Calédonie sont révisées à partir de la littérature et de nouvelles récoltes. Sont listées 443 espèces d'algues (Cyanobacteria exclues) représentant 62 familles, et 185 genres ainsi que 11 espèces d'Angiospermes marines provenant des récifs, lagons et zones littorales. Parmi celles-ci, 103 espèces sont nouvelles pour la région dont 1 genre nouveau pour la science depuis la publication de la première liste. Ce qui est une vision partielle de la réalité puisque n'est pas incluse dans sa totalité l'importante collection récemment consignée et qui reste à étudier.

Introduction

New Caledonia was discovered by Capitain Cook in 1774 but remained untouched by the trans-pacific voyages of discovery and the scientific explorations of 1800 - 1890. The first phycological collections from New Caledonia were composed during the years 1855-1860 and 1862-1867 by Eugène Vieillard, while he was posted as a naval surgeon at four bases in Balade, Wagap, Canala and Gatope. He sent back to France his extensive collections of both terrestrial plants and marine algae and these were distributed to botanists and museums throughout Europe by his friend Lenormand, an amateur French botanist. The phycological collections are housed in Leiden (L), Paris (PC) and Caen (CN; Valet 1968), with one small collection in Michigan (Millar & Payri, 2006). Part of Vieillard's collection was studied by Friedrich Kützing who described 66 new species from New Caledonia in the 20 volumes of *Tabulae Phycologicae* (1863b, 1864-1869). Millar & Prud'homme van Reine (2005) have re-examined those collections and proposed many name changes and new combinations. During 1869-1872, Benjamin Balansa, a naturalist from France, collected in several areas and his material was published with other amateur collections by Sauvageau (1901). Grunow appears to have been the first phycologist to have collected, in 1884, in New Caledonia and the material on green algae was later published by Murray & Boodle (1888) and by Kuckuck (1929) as regards the brown algae. Grunow's collection has not been re-examined because it was thought to have been lost during the WWII bombing of Berlin (Garrigue & Tsuda 1988). In fact the collection is housed in Vienna (W) and the *Sargassum* specimens are currently being re-examined by L. Mattio (in prep.).

During the following decades and until the early 1950s, little changed and only a small amount of New Caledonian material was published in occasional monograph studies (e.g. Weber van Bosse, 1898; Gepp 1922. Olsen-Stojkovich, 1985). In the early 1950s Mrs R. Catala, who was the co-founder of the aquarium in Nouméa, put together a large collection of 478 specimens from the lagoons and reefs of the Grande-Terre. Her collection was sent to Valerie May at 'The Marine Biological Laboratory, Division of Fisheries' in Cronulla (Australia), who identified 122 species in two separate papers (May 1953. 1966). This collection has been recently located at the National Herbarium of New South Wales in the Royal Botanic Gardens in Sydney, Australia. However, the

specimens are poorly preserved and many of the records which needed to be re-examined remain unverifiable (Millar Pers.com). Before May's publication, Mr R. Catala (Catala, 1950), published the first list of 42 species of macroalgae identified by V. May and G.F. Papenfuss as well as 4 seagrasses. In the following decades, new phycological material was collected with the « French expedition to the coral reefs of New Caledonia », supported by the Singer-Polignac Foundation during 1960-1963. The new genus *Riquetophycus polypus* Denizot and 3 new species *Bellotia simplex* Denizot, *Chlorodesmis penicillata* Farghali and *Rhipiliopsis novae-caledoniae* Farghaly & Denizot were described (Farghali & Denizot, 1979; Denizot 1965, 1968). But, unfortunately, the new species' (except for *Riquetophycus polypus*) cannot be recognized because they were not validly published as the authors did not provide Type vouchers and thus failed to satisfy the International Code of Botanical Nomenclature. Later, in the mid-1970s, Valet's work continued to contribute to the present knowledge of marine green algae of New Caledonia with the addition of *Halimeda melanesica* Valet and his work on Dasycladales (Valet 1966, 1968, 1969, 1976).

The period from 1976 to 1990, with the IRD's (ex. ORSTOM) programs in pharmacology (SNOM, SMIB) and the beginning of the explorations of the marine fauna of New Caledonia and dependencies brought a large amount of biological material. But, unfortunately, algae have been poorly studied taxonomically due to the lack of phycological resources. However, and thanks to the biologist-divers at IRD, all the specimens were vouchered by means of permanent formalin specimens (labelled AL#.), and underwater photographic records. In addition, relevant information about location, habitat, depth range, and substratum are stored in the database LAGPLON at IRD Nouméa and which will be soon available online. Finally, the most complete compilation of New Caledonian algal records to date is by Garrigue and Tsuda (1988), which lists 335 species and includes species from Claire Garrigue's thesis and some AL# specimens (Garrigue, 1985). After Garrigue's activity, work on algae returned to an occasional sampling by the IRD's divers.

In 2004, phycological activities recommenced with the arrival of the author at IRD Nouméa. Since then, the shallow and deep-water habitats of the coral reefs and lagoonal environments of New Caledonia including Grande-Terre, Loyalty Islands and Ile des Pins, have been the subject of an intensive sampling effort of macroalgae and marine Angiosperms. Several graduate students are involved in this census of marine algae and in the development of a program of phylogenetic taxonomy for 3 major groups, e.g., Fucales, Dictyotales and Corallinales. Similarly, the coralline algae of Quaternary reef environments have received attention and this has subsequently increased taxonomic information on both modern and actual species (Payri & Cabioch, 2004). The most recent floristic additions are the 41 new records by Millar & Payri (2006), the new genus *Pinnatiphycus menouii* N'Yeurt, Payri & Gabrielson (N'Yeurt *et al.* 2006) and new species of *Struvea thoracica* Kraft & Millar (2005) from the Lagon Sud-Ouest of Nouméa. As a result, the algal flora is vouchered in an extensive phycological herbarium housed at IRD Nouméa.

This recent activity in phycology has heralded a new era which generates new knowledge on the taxonomic identity of the marine flora of New Caledonia as well as on its composition and its biogeographic affinities. The sampling of deep-water flora on the outer slope of the reefs and the recent collections from the southern part of the Ile des Pins, revealed a number of species collected for the first time; part of them are cool-temperate species already known from Japanese waters, Lord Howe and southern Australia, while others are still unidentified.

The following checklist is based on literature records and new collections mostly undertaken by the author and housed at the IRD Phycological Herbarium. Many of the species recorded in Garrigue & Tsuda (1988), were re-documented with new samples and their taxonomy has been updated. However, the species which have not been re-sampled by the author were not re-evaluated but the nomenclature has been updated. The Fucales and, in particular, the taxonomy of *Sargassum* has been completely revisited by Lydiane Mattio during her PhD research. Thanks to Grunow's collection and Agardh's Type specimens, 10 taxa are now recognized compared to the 26 previously recorded (Mattio, Pers. Comm). The 13 records of Catala (1950) and May (1953), have not been resampled.

and are be regarded as doubtful species as the sampling sites have been investigated several times. Unfortunately, these records will remain unverifiable because of the poorly preserved sample condition of Catala's collection as noted above.

In contrast, the intensive sampling of Dictyotales has increased twofold the number of species recorded and revealed at least one new genus, and 5 potentially new species, which are currently being described. The study of the IRD collection undertaken by the author has resulted in a significant number of new records. A detailed annotated checklist of all New Caledonian macroalgae species including distribution data, voucher and literature references is in preparation by the author. The present checklist includes all records which are verified either by specimen collection or by confirmation by revising authors. In both cases, "voucher" are mentioned.

The present checklist includes 443 macroalgae species (Cyanobacteria excluded) representing 62 families, and 185 genera and 11 marine Angiosperms from reefs, lagoon and coastal environments. Among these, 103 species are new records for the area since the Garrigue & Tsuda (1988) catalogue. This figure is likely to fall short of the actual total, since it does not include much of the crustose Corallinaceae, Peyssoneliaceae nor the Liagoraceae that are being studied separately.

Further increases in the number of macroalgae will mostly come from the deep part of fore-reef habitats (60m and below) which are currently being investigated as well as from both the remote and isolated area of Chesterfield and Bellona plateau in the western part, d'Entrecasteaux reefs in the northern part and Côte Oubliée in the eastern part of the Grande-Terre, areas which have been poorly sampled.

The list is arranged alphabetically for the families, genera and species. Subfamilies and subgenera have not been specified. New records are boldface marked, * indicates species with New Caledonia Type locality. Records identified only to the genus level have not been included. Names from the earlier lists that are now regarded as synonymous are in (brackets) others synonymies have been omitted. Type vouchers when known are indicated by the citation of herbarium abbreviations assigned by the International Association for Plant Taxonomy (Holmgren *et al.* 1990) mostly (NSW) and (PC). Each taxon citation is referenced by a publication. All the species listed in the Garrigue & Tsuda (1988) compilation are referenced to this work without distinction of the original citation. The nomenclatural and arrangement into families and orders follows that of Silva *et al.* (1996 and online updates). Spellings, authorities and synonymies have been also check on the "AlgaeBase" website [<http://www.algaebase.org/>].

The list of the marine Angiosperms is based on the recent collection of the author, but earlier records by Den Hartog (1970) are indicated in the reference part of the list. Taxonomic arrangement follows nomenclature of Les *et al.* (1997).

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Appendix 1: ALGAE from New Caledonia

1: Garrigue & Tsuda (1988); 2: Millar & Payri (2006); 3: Payri Collection housed at IRD, 4: Millar & Prud'homme van Reine (2005); 5: Kraft & Millar (2005); 6: Farghaly (1980); 7: Millar & Freshwater (2005); 8: De Clerck (2003), 9: Payri & Cabioch (2004); *: New Caledonia type locality, **bold** : new records

CHLOROPHYTA

BRYOPSIDALES

BRYOPSIDACEAE

<i>Bryopsis harveyana</i> J. Agardh	1
<i>Bryopsis pennata</i> Lamouroux	1, 3
<i>Bryopsis plumosa</i> C. Agardh	1, 3
<i>Bryopsis ramulosa</i> Montagne	1
<i>Trichosolen myura</i> J. Agardh	1

CAULERPACEAE

<i>Caulerpella ambigua</i> (Okamura) Prud'homme van Reine & Lokhorst (as <i>Caulerpa ambigua</i> Okamura)	1, 3	
<i>Caulerpa annulata</i> Lucas	1, 3	
<i>Caulerpa bikinensis</i> Taylor	1	
<i>Caulerpa biserrulata</i> Sonder	1, 3	
<i>Caulerpa brachypus</i> Harvey	1, 3	
<i>Caulerpa cupressoides</i> (Vahl) C. Agardh	1, 3	
<i>Caulerpa cupressoides</i> (Vahl) C. Agardh var. <i>lycopodium</i>		
Weber-van-bosse	3	
<i>Caulerpa fulcifolia</i> Bailey & Harvey	1	
<i>Caulerpa fastigiata</i> Montagne	1, 3	
<i>Caulerpa fergusonii</i> Murray	1, 3	
<i>Caulerpa filicoides</i> Yamada	1, 3	
<i>Caulerpa lentillifera</i> J. Agardh (= * <i>Chauvinia microphysa</i> Kützing)	1, 3, 4	*Type: L 937,337-749 (barcode L 0194018)
<i>Caulerpa lessoni</i> Bory	1	
<i>Caulerpa mexicana</i> Sonder ex Kützing (as <i>C. crassifolia</i> (C. Agardh) J. Agardh)	1	
<i>Caulerpa microphysa</i> (Weber van Bosse) J. Feldman	1, 3	
<i>Caulerpa nummularia</i> Harvey ex J. Agardh	1, 3	
<i>Caulerpa okamurae</i> Weber-van Bosse	1	
<i>Caulerpa peltata</i> Lamouroux	1, 3	
<i>Caulerpa peltata</i> Lamouroux var. <i>macrodisca</i> (Decaisne) Weber-van Bosse (as <i>C. macrodisca</i> Decaisne)	1, 3	
<i>Caulerpa racemosa</i> (Forskål) J. Agardh	1, 3	
<i>Caulerpa racemosa</i> (Forskål) J. Agardh var. <i>corynephora</i> (Montagne) Weber van Bosse	1, 3	
<i>Caulerpa racemosa</i> (Forskål) J. Agardh var. <i>lamourouxii</i> (Turner) Weber van Bosse	1, 3	
<i>Caulerpa racemosa</i> (Forskål) J. Agardh var. <i>macrophysa</i> (Sonder ex Kützing) W.R. Taylor	1, 3	
<i>Caulerpa racemosa</i> (Forskål) J. Agardh var. <i>turbinata</i> (J. Agardh) Eubank	3	
<i>Caulerpa sedoides</i> C. Agardh	1, 3	
<i>Caulerpa sedoides</i> f. <i>crassicaulis</i> (J. Agardh) Weber-van Bosse	1	
<i>Caulerpa serrulata</i> (Forskål) J. Agardh (= * <i>C. vieillardii</i> Kützing)	1, 3, 4	*Holotype: L 937,336-456 (barcode L 0194017)
<i>Caulerpa sertularioides</i> (Gmelin) Howe	1, 3	
<i>Caulerpa taxifolia</i> (Vahl) C. Agardh	1, 3	
<i>Caulerpa taxifolia</i> (Vahl) C. Agardh f. <i>tristichophylla</i> Svedelius	3	

<i>Caulerpa urvilliana</i> Montagne	1, 3	
<i>Caulerpa verticillata</i> J. Agardh	1, 3	
<i>Caulerpa webbiana</i> Montagne	1, 3	
CODIACEAE		
<i>Codium arabicum</i> Kützinger	1, 3	
<i>Codium foveolatum</i> Howe [doubtfull record]	1	
<i>Codium geppiorum</i> O.C. Schmidt		
(= <i>C. bulbopilum</i> Setchell = <i>C. divaricatum</i> Gepp nom. illeg.)	1, 3	
<i>Codium mamillosum</i> Harvey	1, 3	
<i>Codium spongiosum</i> Harvey	1, 3	
<i>Codium saccatum</i> Okamura	3	
<i>Halimeda borneensis</i> W. R. Taylor		
(as <i>H. incrassata</i> (Ellis) and as <i>H. simulans</i> Howe)	1, 3	
<i>Halimeda cylindracea</i> Decaisne	1, 3	
<i>Halimeda discoidea</i> Decaisne	1, 3	
<i>Halimeda distorta</i> (Yamada) Hillis		
(as <i>H. copiosa</i> Goreau & Graham)	1, 3	
<i>Halimeda fragilis</i> Taylor	1	
<i>Halimeda gigas</i> Taylor	1, 3	
<i>Halimeda gracilis</i> Harvey	1, 3	
<i>Halimeda heteromorpha</i> N'Yeurt	3	
<i>Halimeda lacunalis</i> W.R. Taylor f. <i>lata</i> (W.R. Taylor) Hillis	1, 3	
<i>Halimeda macroloba</i> Decaisne	1, 3	
<i>Halimeda macrophysa</i> Askenasy	1, 3	
<i>Halimeda magnidisca</i> Noble	1, 3	
<i>Halimeda melanesica</i> Valet	1, 3	
<i>Halimeda micronesica</i> Yamada	1, 3	
<i>Halimeda minima</i> (W.R. Taylor) Colinvaux	1, 3	
<i>Halimeda opuntia</i> (Linnaeus) Lamouroux	1, 3	
<i>Halimeda taenicola</i> W.R. Taylor	1, 3	
<i>Halimeda tuna</i> (Ellis & Solander) Lamouroux	1	
<i>Halimeda velasquezii</i> W.R. Taylor	1	
UDOTEACEA		
<i>Avrainvillea asarifolia</i> Børgesen	1	
<i>Avrainvillea erecta</i> (Berkeley) A. Gepp & E. Gepp	1, 3	
<i>Avrainvillea lacerata</i> Harvey ex J. Agardh	1, 3	
<i>Avrainvillea mazei</i> Murray & Boodle	1	
<i>Avrainvillea nigricans</i> Decaisne	1, 3	
<i>Avrainvillea obscura</i> (C. Agardh) J. Agardh	1, 3	
<i>Avrainvillea ridleyi</i> Gepp & Gepp	1	
<i>Chlorodesmis caespitosa</i> J. Agardh	1	
<i>Chlorodesmis fastigiata</i> (C. Agardh) Ducker	1, 3	
<i>Rhipidosiphon javensis</i> (Montagne)		
(as <i>Udotea javensis</i> (Montagne) Gepp & Gepp)	1, 3	
<i>Rhipilia pusilla</i> (Womersley) Ducker	1	
<i>Rhipilia sinuosa</i> Gilbert	6	
<i>Rhipilia tenaculosa</i> Gepp & Gepp	1, 3	NC05-009
<i>Rhipilia penicilloides</i> N'Yeurt & Keats		
(as <i>Chlorodesmis penicillata</i> Farghali et Denizot)	2, 3	NSW 611762, NSW 611749
<i>Rhipiliopsis novae-caledoniae</i> Farghaly & Denizot	1	
<i>Tydemania expeditionis</i> Weber van Bosse	1, 3	
<i>Udotea cf argentea</i> Zanardini	3	
<i>Udotea flabellum</i> (Ellis & Solander) Howe	1	
<i>Udotea geppiorum</i> Yamada	1, 3	
<i>Udotea orientalis</i> A. Gepp & E. Gepp	1, 3	

CLADOPHORALES

ANADYOMENACEAE

<i>Anadyomene wrightii</i> Gray	3	
<i>Microdictyon japonicum</i> Setchell	1	
<i>Chaetomorpha linum</i> (O.F.Müller) Kützing	1, 3	
<i>Chaetomorpha natalensis</i> Hering	1	
<i>Cladophora feredayi</i> Harvey	1	
<i>Cladophora mamillata</i> Leliaert (as <i>Valonia cladophora</i> Kützing)	1, 4	Holotype: Vieillard # 1975 (barcode L 0054999)
<i>Cladophora socialis</i> Kützing	1	
<i>Rhizoclonium africanum</i> Kützing (as <i>Rhizoclonium hookeri</i> Kützing)	1	
<i>Rhizoclonium riparium</i> (Roth) Harvey (as <i>Rhizoclonium implexum</i> (Dillwyn) Kützing)	1	

SIPHONOCLADACEAE

<i>Apjohnia laetevirens</i> Harvey (= <i>Apjohnia scoparia</i> Valet as <i>*Struvea scoparia</i> Kützing)	1, 3, 4	Holotype: L 937,183-105 (barcode L 0062221)
<i>Boodlea coacta</i> (Dickie)	1	
<i>Boodlea composita</i> (Harvey) Brand (as <i>*Cladophora physarthra</i> Kützing)	1, 3, 4	
<i>*Phyllodictyon anastomosans</i> (Harvey) Kraft & M.J. Wynne (as <i>Struvea deliculata</i> Kützing)	1, 3, 4	Holotype: Vieillard # 2111 (barcode L 0237969)
<i>Boergesenia forbesii</i> (Harvey) J. Feldmann	1, 3	
<i>Dictyosphaeria cavernosa</i> (Forskål) Børgesen	1, 3	
<i>*Dictyosphaeria ulvacea</i> Kützing	1, 4	Type: Vieillard # 1978 (barcode L 0055026)
<i>Dictyosphaeria versluysii</i> W.v. Bosse	1, 3	
<i>Cladophoropsis herpestica</i> (Montagne) Howe	1, 3	
<i>Cladophoropsis membranacea</i> (Hofman Bang ex. C.Agardh) Børgesen	1, 3	
<i>Cladophoropsis orientalis</i> (Okamura & Higashi)		
Leliaert & Coppejans	3	
<i>Cladophoropsis vaucheriaeformis</i> (Areschoug) Papenfuss (as <i>Spongocladia vaucheriaeformis</i> Areschoug. (as <i>*S. neocaledonica</i> Grunow ex G. Murray & Boodle) [according to Leilart 2004]	1, 3, 4	*Holotype : Grunow 3558, 9.x.1884, W
<i>Cladophoropsis javanica</i> (Kützing) P.C. Silva (as <i>Cladophoropsis zollingeri</i> (Kützing) Reinbold)	1	
<i>Siphonocladus tropicus</i> (P.L. Crouan & H.M. Crouan) J. Agardh	3	
<i>Struvea thoracica</i> Kraft & A.J.K. Millar	3, 5	
<i>Ventricaria ventricosa</i> (J.Agardh) Olsen & J. West	1, 3	

VALONIAACEAE

<i>Ernodesmis verticillata</i> (Kützing) Børgesen	1, 3	
<i>Valonia aegagropila</i> C. Agardh	3	
<i>Valonia fastigiata</i> Harvey	1, 3	
<i>Valonia macrophysa</i> Kützing	3	
<i>Valoniopsis pachynema</i> (G.Martens) Børgesen	1, 3	

CODIOLALES

ACROSIPHONIAACEAE

<i>Acrosiphonia arcta</i> (Dillwyn) Gain (as <i>*Cladophora radians</i> Kützing)	1, 4	Lectotype : Vieillard # 2006 (barcode L 0194019)
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DASYCLADALES

DASYCLADACEAE

<i>Bornetella capitata</i> (Harvey) J. Agardh	1	
<i>Bornetella nitida</i> Sonder	1, 3	
<i>Bornetella oligospora</i> Solms-Laubach	1, 3	
<i>Bornetella sphaerica</i> Zanardini	1, 3	
<i>Chlorocladus australasicus</i> Sonder		
(as <i>Dasycladus australasicus</i> (Sonder) W.R. Taylor)	1	
<i>Dasycladus densus</i> Womersley	6, 3	
<i>Halicoryne spicata</i> (Kützing) Solms-Laubach		
(=* <i>Polyphysa spicata</i> Kützing)	1, 3, 4	*Holotype: L 937,183-066 (barcode L 0054969)
<i>Neomeris annulata</i> Dickie	1, 3	
<i>Neomeris bilimbata</i> Koster	1	
<i>Neomeris mucosa</i> Howe	1	
<i>Neomeris stipitata</i> Howe	1	
<i>Neomeris van-bosseae</i> Howe	1, 3	
<i>Penicillus nodulosus</i> (Lamouroux) Blainville	3	

POLYPHYSACEAE

<i>Acetabularia dentata</i> Solms-Laubach	1	
<i>Acetabularia kilneri</i> Agardh J.	1	
<i>Acetabularia major</i> G. Martens	3	
<i>Acetabularia peniculus</i> (R. Brown ex Turner) Solms-Laubach	1	
<i>Parvocaulis clavata</i> (Yamada) Berger <i>et alii</i>		
(as <i>Acetabularia clavata</i> Yamada)	1, 3	
<i>Parvocaulis exigua</i> (Solms-Laubach) Berger <i>et alii</i>		
(as <i>Acetabularia exigua</i> Solms-Laubach)	1, 3	
<i>Parvocaulis polyphysoides</i> C. P. L. Crouan & H. M. Crouan		
Berger <i>et alii</i>	3	

PHAEOPHILALES

PHAEOPHILACEAE

<i>Phaeophila dendroides</i> (P. Crouan & H. Crouan)	1	
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ULVALES

ULVACEAE

<i>Ulva compressa</i> Linnaeus		
(as <i>Enteromorpha compressa</i> (Linnaeus) Nees)	1	
<i>Ulva intestinalis</i> Linnaeus		
(as <i>Enteromorpha intestinalis</i> (Linnaeus) Nees)	1	
<i>Ulva paradoxa</i> C. Agardh (as <i>Enteromorpha plumosa</i> Kützing)	1, 3	
<i>Ulva fasciata</i> Delile	1	
<i>Ulva lactuca</i> Linnaeus	1	

RHODOPHYTA

RHODOPHYCEAE

BANGIOPHYCIDAE

PORPHYRIDIALES

PORPHYRIDIACEAE

<i>Stylonema alsidii</i> (Zanardini)	1	
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FLORIDEOPHYCIDAE

BONNEMAISONIALES

BONNEMAISONIACEAE

<i>Asparagopsis armata</i> Harvey	1, 3	
<i>Asparagopsis taxiformis</i> (Delile) Trevisan	1, 3	
<i>Delisea pulchra</i> (Greville) Montagne	3	NC06-010

CERAMIALES

CERAMIACEAE

<i>Antithamnion delicatulum</i> (Harvey) De Toni	2	NSW Slide 29-3
<i>Antithamnion pectinatum</i> (Montagne) Brauner in Athanasiadis & Tittley	2	NSW Slide 29-4
<i>Antithamnionella ternifolia</i> (Hooker & Harvey) Lyle	2	NSW Slide 29-6
* <i>Callithamnion vieillardii</i> Kützing	1, 4	*Type: L935, 92-234 (barcode L 0055703)
<i>Campylaephora crassa</i> (Okamura) Nakamura	1	
<i>Centroceras clavulatum</i> (C.Agardh)	1	
<i>Ceramium borneense</i> Weber-van Bosse	4	NSW Slide 29-24
<i>Ceramium flaccidum</i> (Kützing) (= <i>C. kuetzingianum</i> Grunow = * <i>Gongroceras subtile</i> Kützing)	1, 4	*Type: L938, 303-191 (barcode L 0193965) NSW Slide 29-9
<i>Dasyphila plumarioides</i> Yendo	2, 3	NSW 611777
<i>Dotyella hawaiiensis</i> (Doty & Wainwright) Womersley & Shepley	2	NSW 611773
<i>Euptilota articulata</i> (J.Agardh) Schmitz	2, 3	Type: L941, 61-42 (barcode L 0055921) Vieillard #1906 NSW611813 ; NSW 611820
<i>Griffithsia heteromorpha</i> Kützing	1, 4	
<i>Haloplegma duperreyi</i> Montagne	2, 3	
<i>Mesothamnion caribaeum</i> Børgesen	1	
<i>Ptilocladia yuenii</i> Abbott in Abbott & Norris	2	NSW 29-17
<i>Ptilothamnion schmitzii</i> Heydrich	2	NSW 29-18
<i>Spyridia filamentosa</i> (Wulfen) Harvey	1, 3	
<i>Wrangelia argus</i> Montagne	1	
DASYACEAE		
<i>Dasya anastomosans</i> (as <i>D. pilosa</i> (Weber-van Bosse) Millar)	2, 3	NSW 611747
<i>Dasya naccarioides</i> Harvey	2	NSW 611911
<i>Dasya roslyniae</i> Millar & Chidgey	3	
<i>Heterosiphonia crassipes</i> (Harvey) Falkenberg	2	NSW 611812, NSW 611812
<i>Thuretia australasica</i> (Sonder) Parson	3	NC04 1023, NC04 194
<i>Thuretia nov.sp</i>	3	
DELESSERIACEAE		
<i>Apoglossum unguiculescens</i> Millar	2	NSW Slide 29-5
<i>Caloglossa bombayensis</i> Børgesen	1	
<i>Caloglossa vieillardii</i> (Kützing) Setchell (as * <i>Hypoglossum vieillardii</i> Kützing)	1, 4	*Type : L 935, 329-1 (barcode L 0055716) NSW 611908
<i>Hypoglossum simulans</i> Wynne, Price & Balantine	2	
<i>Martensia flabelliformis</i> Harvey	1, 3	
<i>Martensia fragilis</i> Harvey (as <i>Martensia elegans</i> Hering)	1, 2	NSW Slide 29-16
<i>Vanvoorstia spectabilis</i> Harvey	2, 3	NSW 611737
RHODOMELACEAE		
<i>Acanthophora pacifica</i> (Setchell) Kraft	1, 3	
<i>Acanthophora spicifera</i> (Vahl) Børgesen	1, 3	
<i>Amansia rhodantha</i> (Harvey) J.Agardh	3	
<i>Aneurianna lorentzii</i> (Weber-van Bosse) L.E. Phillips (as <i>Lenormandiopsis lorentzii</i> (Weber-van Bosse) Papenfuss)	2, 3	NSW 611804
<i>Bostrychia binderi</i> Harvey	1	
<i>Bostrychia moritziana</i> (Sonder) J. Agardh (as * <i>Polysiphonia pauperula</i> Kützing)	1, 4	*Type: L941, 253-168 (barcode L 0056093)
<i>Bostrychia radicans</i> Montagne	1	
<i>Bostrychia tenella</i> (Lamouroux) J.Agardh (= * <i>B. vieillardii</i> (Kützing) and * <i>B. vieillardii</i> var. <i>pectinata</i> (Kützing))	1, 4	*Type: L935, 329-10 (barcode L 0055696) *Type: L935, 329-13 (barcode L 0055694)

<i>Bostrychia vaga</i> Hooker & Harvey	1	
<i>Chondria armata</i> (Kützinger) Okamura (as <i>*Lophura armata</i> Kützinger)	1, 2, 3	*Type: L 940, 284-299 (barcode L 0055801)
<i>Chondria dasyphylla</i> (Wooward) C. Agardh	1	
<i>Chondria simpliciuscula</i> Weber-van Bosse	2	NSW Slide 29-15
<i>Chondria ryukyuensis</i> Yamada	3	
<i>Chondria viticulosa</i> Millar & Wynne	2	NSW Slide 29-12, NSW Slide 29-13
<i>Chondrophycus perforata</i> (Bory) Nam (as <i>L. perforata</i> (Bory) Nam = <i>Laurencia vaga</i> Kützinger)	1, 3	*Type : L 941, 119-132 (barcode L 0055999)
<i>Chondrophycus thuyoides</i> (Kützinger) Furnari (as <i>L. paniculata</i> (C.Agardh) J. Agardh = <i>Laurencia thuyoides</i> Kützinger)	1, 4	*Type : L 941, 149-178 (barcode L 0055999)
<i>Digenea simplex</i> (Wulfen) C.Agardh (= <i>*D. vieillardii</i> Kützinger)	1, 4	Type : L 940, 347-120 (barcode L 0194029)
<i>Laurencia brongniartii</i> J. Agardh (as <i>Osmundea spectabilis</i> (Postels & Ruprecht) Nam)	3, 2	NSW 611816
<i>*Laurencia calliptera</i> Kützinger (as <i>L. brongniartii</i> J. Agardh)	4, 1	* Type : L 941, 119-53 (barcode L 0194035)
<i>*Laurencia decumbens</i> Kützinger	1, 4	* Type: L 941, 119-50 (barcode L 0055982)
<i>Laurencia kuetzingii</i> (Kützinger) Millar (as <i>*L. flagellifera</i> Kützinger)	1, 4	*Type : L 943, 263-8 (barcode L 0055983)
<i>Laurencia obtusa</i> (Hudson) Lamouroux (= <i>L. dendroidea</i> J. Agardh)	1	
<i>Laurencia glandulifera</i> (Kützinger) Kützinger (as <i>L. paniculata</i> (C. Agardh) J. Agardh)	1	
<i>Laurencia perforata</i> (Bory) Montagne	1	
<i>*Laurencia vieillardii</i> Kützinger (as <i>L. dendroidea</i> J Agardh)	1, 4	*Type : L 941. 119-51 (barcode L 0194037)
<i>Leveillea jungermannioides</i> (Hering & G. Martens) Harvey	1, 3	
<i>Lophosiphonia prostrata</i> (Harvey) Falkenberg	2	NSW Slide 29-11
<i>Melanamansia glomerata</i> (C. Agardh) R.E. Norris (as <i>Amansia</i> <i>glomerata</i> Agardh C (as <i>*A. fasciculata</i> Kützinger)	1, 3, 4	*Type: L938, 19-61 (barcode L 0194026)
<i>Melanamansia serrata</i> (Harvey) Norris	3	
<i>Newymenia fraxinifolia</i> (Mertens ex Turner) J.Agardh	1, 3	
<i>Odonthalia floccosa</i> (Esper) Falkenberg	1	
<i>*Polysiphonia polyphysa</i> Kützinger	1, 4	Type: L 941. 253-167 (barcode L 0056094)
<i>Tolypocladia calodictyon</i> (Harvey ex Kützinger) P. Silva	1	
<i>Tolypocladia condensata</i> (Weber-van Bosse) P. Silva	1	
<i>Tolypocladia glomerulata</i> (C. Agardh) Schmitz	1, 3	
<i>Osmundaria fimbriata</i> (Lamouroux) R.E. Norris (as <i>Vidalia fimbriata</i> (Lamouroux) J. Agardh)	1	

CORALLINALES

CORALLINACEAE

<i>Amphiroa anceps</i> (Lamarck) Decaisne	1	
<i>Amphiroa crassa</i> Lamouroux	3	
<i>Amphiroa ephedraea</i> (Lamarck) Decaisne	3	
<i>Amphiroa foliacea</i> Lamouroux	1, 3	
<i>Amphiroa fragilissima</i> (Linnaeus) Lamouroux	1, 3	
<i>Amphiroa tribulus</i> (Ellis & Solander) Lamouroux	3	

<i>Amphiroa vanbossae</i> Lemoine	1
<i>Cheilosporum cultratum</i> (Harvey) Areschoug	1
<i>Cheilosporum spectabile</i> Harvey	1, 3
<i>Hydrolithon farinosum</i> (Lamouroux) Penrose & Chamberlain (as <i>Fosliella farinosa</i> (Lamouroux))	1, 3
<i>Hydrolithon onkodes</i> (Heydrich) Penrose & Chamberlain	3, 9
<i>Hydrolithon reinboldii</i> (Weber-van Bosse & Foslie) Foslie	3, 9
<i>Jania adhaerens</i> Lamouroux	1
<i>Jania decussatodichotoma</i> (Yendo) Yendo	1
<i>Lithophyllum flavescens</i> Keats	3
<i>Lithophyllum insipidium</i> Adey, Townsend & Boykins	3
<i>Lithophyllum kotschyianum</i> Unger	3, 9
<i>Lithoporella melobesioides</i> (Foslie) Foslie	9
<i>Lithothamnion proliferum</i> Foslie	3
<i>Mastophora rosea</i> (C. Agardh) Setchell	1, 3
<i>Neogoniolithon fosliei</i> (Heydrich)	1, 3
<i>Neogoniolithon frutescens</i> (Foslie) Setchell & Mason	1, 3
<i>Pneophyllum conicum</i> (Dawson) Keats, Chamberlain & Baba	3

GELIDIALES

GELIDIACEAE

Gelidium crinale (Turner) Caillon
(as *Gelidium deliculatum* (Kützing) Crouan & Crouan
as **Acrocarpus delicatulus* (Kützing))

1, 4 *Type : L941-11-103
(barcode L 0194025)

***Gelidium isabelae* Taylor**

7

Pterocladia caerulescens (Kützing) Santelices & Hommersand
(=*Pterocladia caerulescens* (Kützing) Santelices
=**Gelidium caerulescens* Kützing)

1, 4 Type: L941-11-91
(barcode L 0056117)

Pterocladia capillacea (S. G. Gmelin) Santelices & Hommersand
(as *Pterocladia capillacea* (Gmelin) Bornet)

1

GELIDIELLACEAE

Gelidiella acerosa (Forskål) (= **Gelidium ramelliferum* Kützing,
= **Echinocaulon ramelliferum* (Kützing) Kützing)

1, 4 *Type : L941-11-63
(barcode L 0055886)

GIGARTINALES

ACROSYMPHYTACEAE

***Acrosymphyton taylorii* Abbott**

2, 3

ARESCHOUGIACEAE

Betaphycus speciosum (Sonder) Doty ex P.C. Silva
(as *Eucheuma speciosum* (Sonder) J. Agardh)

1, 3

***Callophycus densus* (Sonder) Kraft**

2, 3

NSW 611780

Callophycus serratus (Harvey & Kützing)

1, 3

Erythroclonium muelleri Sonder

1, 3

***Eucheuma arnoldii* Weber-van Bosse**

3

NC06-075

Eucheuma denticulatum (Burman) Collins & Hervey
(=**Grateloupia opposita* Kützing)

1, 4 *Type: L938, 92-311
(barcode L 0194032)

Eucheuma edule (Kützing) Weber-van Bosse (as **Chondrus edulis*
(Kützing))

1, 4 *Type: L938, 92-309
(barcode L 0055877)

Meristotheca polychotoma (Kützing) Millar (as **Euthymenia*
polychotoma Kützing)

4, 1 *Type: L 941, 11-2
(barcode L 0194030)

<i>Meristotheca procumbens</i> Gabrielson & Kraft	2, 3	NSW 611944
<i>Solieria anastomosa</i> Gabrielson & Kraft	2, 3	NSW 611809
<i>Solieria mollis</i> (Kylin) Harvey	1	
<i>Solieria robusta</i> (Greville) Kylin	2	NSW 611821
CAULACANTHACEAE		
<i>Catenella caespitose</i> (Withering) L. Irvine (= <i>C. opuntia</i> (Goodenough & Woodward) Greville	1	
CORYNOCYSTACEAE		
<i>Corynocystis prostrata</i> Kraft	2, 3	NSW 611752
DICRANEMATACEAE		
* <i>Pinnatiphycus menouii</i> N'Yeurt, Payri & Gabrielson	3	*HOLOTYPE : IRD 0028/ PC 0062760
DUMONTIACEAE		
<i>Gibsmithia dotyii</i> Kraft & Ricker	3	
<i>Gibsmithia hawaiiensis</i> Doty	1, 3	
<i>Gibsmithia womersleyi</i> Kraft & Ricker	3	NC04-37
<i>Dudresnaya capricornica</i> Robins & Kraft	2, 3	NSW 611727, NSW 611784
<i>Dudresnaya australis</i> J.Agardh ex Setchell	2, 3	NSW 611815
GIGARTINACEAE		
<i>Gigartina nana</i> (C.Agardh) J.Agardh	1	
HYPNEACEAE		
<i>Hypnea borgesensis</i> Tanaka (as * <i>Hypnea aspera</i> Kützing)	4	*Type: 941,97-186 (barcode L 0055947)
<i>Hypnea cenomyce</i> J. Agardh	1	
<i>Hypnea cervicornis</i> J. Agardh	1	
<i>Hypnea esperi</i> Bory	1	
<i>Hypnea pannosa</i> J. Agardh	1	
<i>Hypnea saidana</i> Holmes (as * <i>Sphaerococcus spinuosus</i> Kützing)	1, 4	*Type: 941, 51 -61 (barcode L 0056140)
* <i>Hypnea vaga</i> Kützing	1, 4	*Type: 941, 61-133 (barcode L 0055957)
<i>Hypnea valentiae</i> (Turner) Montagne	1	
KALLYMENIACEAE		
<i>Kallymenia perforata</i> J. Agardh	3	
SCHIZYMENIACEAE		
<i>Titanophora pikeana</i> (Dickie) Feldmann	1, 3	
<i>Titanophora weberae</i> Børgesen	1, 3	
PEYSSONNELIACEAE		
<i>Cruoriella dezwaanii</i> (W.v. Bosse)	1	
<i>Ethelia biradiata</i> W.v. Bosse	1, 3	
<i>Peyssonnelia capensis</i> Montagne	1, 3	
* <i>Peyssonnelia neocaledonica</i> Kützing	1, 4, 3	*Type : L 941. 181-434 (barcode L0061144)
PHACELOCARPACEAE		
<i>Phacelocarpus apodus</i> J. Agardh	3	
<i>Phacelocarpus neurymenioides</i> N'Yeurt, Keats & Norris	3	
PHYLLORHIZACEAE		
<i>Schottera angustifolia</i> (Kützing) Millar (as <i>Sphaerococcus angustifolius</i> Kützing)	4	Holotype: Vieillard: L 941, 311-34 (barcode L 0194039)
POLYIDEACEAE		
<i>Rhodopeltis borealis</i> Yamada	1, 3	
<i>Stenopeltis liagoroides</i> (Yamada) Itono & Yoshizaki	3	
RHIZOPHYLLIDACEAE		
<i>Carpopeltis maillardii</i> (Montagne & Millardet) Chiang		

(= **Gelidium multicornis* Kützing, = *Carpopeltis multicornis* (Kützing) de Toni = *Cryptonemia multicornis* (Kützing) Sonder = **Nothogenia livida* Kützing) 1, 4 *Type: L941, 11-92 (barcode L 0055897) *Type: L938, 303-141 (barcode L 0194038)

Portieria hornemannii (Lyngbye) P. C. Silva (= *Chondrococcus spinulosum* (Kützing) = *Portieria spinulosa* (Kützing) P. C. Silva.) 1, 3, 4 *Type: L940, 284-248 (barcode L 0194028)

SARCODIACEAE

**Sarcodia marginalis* (Kützing) Millar 4 *Type : L 941, 149-56 (barcode L 0056014)

GRACILARIALES

GRACILARIACEAE

Ceratodictyon spongiosum Zanardini 1

Gracilaria arcuata Zanardini 1

Gracilaria canaliculata Sonder (as *G. obtusa* (Greville) J. Agardh) 1

(= **Sphaerococcus canaliculatus* Kützing) 1, 3, 4 *Type: L 941, 61-93 (barcode L 0194040)

Gracilaria chondracantha (Kützing) Millar (as **Sphaerococcus chondracanthus* Kützing) 4, 3 *Type: L 941, 61-74 (barcode L 0194042)

Gracilaria corniculata (R. Brown) J. Agardh (as **Sphaerococcus spinulosus* Kützing) 4 *Type: L 941, 51-61 (barcode L 0056140)

Gracilaria salicornia (C. Agardh) Dawson 1

Gracilaria verrucosa (Hudson) Papenfuss 1

Gracilaria vieillardii Silva (as **Sphaerococcus denticulatus* Kützing, as *Gracilaria denticulata* (Kützing) Weber-van Bosse) 4, 1 *Type: L 938, 92-252 (barcode L 0055699)

Hydropuntia edulis (S.G. Gmelin) Gurgel & Fredericq (as *Gracilaria spinescens* (Kützing) as *G. edulis* (Gmelin) Silva (as **Sphaerococcus lemania* Kützing, = *S. setaceus* Kützing, = *S. spinescens* Kützing)) 1, 4 *Type: L 941, 61-61 (barcode L 0194043)

* *Melanthalia fastigiata* Kützing (as *M. concinna* J. Agardh) 4, 1 *Type: L 941, 149-79 (barcode L 0194083)

Melanthalia obtusata (Labillardiere) J. Agardh (as **M. vieillardii* Kützing) 1, 4 *Type: L 941, 149-80 (barcode L 0056017)

HALYMENIALES

CORYNOMORPHACEAE

Corynomorpha prismatica (J. Agardh) C. Agardh 2, 3 NSW 611917

HALYMENIACEAE

Cryptonemia crenulata (J. Agardh) J. Agardh 2, 3 NSW 611 910

Halymenia durvillei Bory 3

Halymenia floresia (Clemente y Rubio) C. Agardh 3

Halymenia kuetzingii (Kützing) Millar (as **Iridea fimbriata* Kützing) 4 *Type: 941, 119-10 (barcode L 0194034)

Polyopes emarginatus (Kützing) Millar

(= **Grateloupia emarginata* Kützing = **Chondrus coccineus* Kützing, as *Eucheuma gelatinae* (Esp.) J. Agardh) 1, 4 *Type: L 938, 92-310 (barcode L 0194031) *Type: L 940, 284-245 (barcode L 0055804)

<i>Polyopes ligulatus</i> (Harvey ex Kützing) De Toni	1	
<i>Prionitis obtusata</i> Sonder (as <i>Zanardinula obtusa</i> (Sonder) May)	1	
SEBDENIACEAE		
<i>Sebdenia flabellata</i> (J. Agardh) Berthold	3	
NEMALIALES		
LIAGORACEAE		
<i>Ganonema farinosum</i> (Lamouroux) Fan & Wang (= <i>Liagora farinosa</i> Lamouroux, as <i>L. pressii</i> Kützing)	1, 3	▫PC0107882 ; ▫PC0107883 ; IRD 327
<i>Ganonema pinnatum</i> (Harvey) Huisman	3	IRD 387, IRD 405, IRD 426
<i>Ganonema samaense</i> (Tseng) Huisman (as <i>*Nemalion filicoides</i> Kützing)	1, 3	IRD
<i>Liagora annulata</i> J. Agardh	1	
<i>Liagora boergesenii</i> Yamada	1	
<i>Liagora ceranoides</i> Lamouroux	1, 3	IRD 367, IRD 369
<i>Liagora rugosa</i> Zanardini	1	
<i>Liagora tomentosa</i> Kützing	1	
<i>Liagora valida</i> Harvey	1, 3	IRD 350, IRD349, IRD 435, IRD 434
<i>Yamadaella caenomyce</i> (Descaine) Abbott	1, 3	
GALAXAURACEAE		
<i>Actinotrichia fragilis</i> (Forskål) Børgesen	1, 3	
<i>Galaxaura divaricata</i> (Linnaeus) Huisman & Townsend (as <i>Galaxaura fasciculata</i> Kjellman, as <i>*G. cohaerens</i> Kjellman)	1	
<i>Galaxaura rugosa</i> (Ellis & Solander) Lamouroux (including <i>G. subverticillata</i> Kjellman, <i>G. elongata</i> J. Agardh, <i>G. rudis</i> Kjellman, <i>G. lapidescens</i> (Solander) Lamouroux)	1, 3	
<i>Dichotomaria australis</i> (Sonder) Huisman, Harper et Saunders (as <i>Galaxaura hystrix</i> Kjellman, as <i>G. ventricosa</i> Kjellman)	1, 2, 3	NSW 611738
<i>Dichotomaria obtusata</i> (J.Ellis & Solander) Lamouroux (as <i>G. obtusata</i> (J.Ellis & Solander) Lamouroux)	1, 3	
<i>Tricleocarpa cylindrica</i> (Ellis & Solander) Huisman & Borowitzka	3	
<i>Tricleocarpa fragilis</i> (Linnaeus) Huisman & Townsend (as <i>G. oblongata</i> (J. Ellis & Solander) Lamouroux)	1, 3	
SCINAIACEAE		
<i>Scinaia aborealis</i> Huisman	3	
<i>Scinaia tsinglanensis</i> Tseng	2, 3	NSW 611734
<i>Gloiophloea</i> (?) <i>articulata</i> Weber-van Bosse	2, 3	NSW 611800, NSW611913
NEMASTOMATALES		
NEMASTOMATACEAE		
<i>Platoma cyclocolpum</i> (Montagne) Schmitz	3	
<i>Predaea weldii</i> Kraft & Abbott	3, 4	NSW 611 724
<i>Predaea laciniosa</i> Kraft	3, 4	NSW 611788
PLOCAMIALES		
PLOCAMIACEAE		
<i>Plocamium angustum</i> (J. Agardh) J.D. Hooker & Harvey (as <i>*P. botryoides</i> Kützing)	1, 4	Type : L 941, 240-49 (barcode L 0056037)
<i>Plocamium leptophyllum</i> Kützing (as <i>P. cartilagineum</i> var. <i>leptophyllum</i> (Kützing) V. J. Chapman)	1	
<i>Plocamium hamatum</i> J. Agardh	1, 3	

RHODYMENIALES**CHAMPIACEAE**

- Champia parvula* (C. Agardh) Harvey 1
Champia expansa Yendo 1
 **Champia vieillardii* Kützing 1, 3, 4 Type: L938, 303-132
 (barcode L 0055786)

FAUCHEACEAE

- Gloiocladia halymenioides* (Harvey) Norris 3

LEPTOFAUCHEACEAE

- Leptofauchea anastomosans* (Weber-van Bosse) R.E. Norris & Aken 3 NC04-137

RHODYMENIACEAE

- Asteromenia peltata* (Taylor) Huisman & Millar 2 NSW 611 799
Gelidiopsis intricata (C. Agardh) Vickers (= **Acrocarpa capitatus*
 Kützing) 1, 3, 4 Type: L941-104
 (barcode L 0194024)

- Gelidiopsis repens* (Kützing) Weber-van Bosse (as **Gelidium repens*
 Kützing = *Gelidiopsis acrocarpa* (Harvey ex Kützing) de Toni) 1, 4 *Type: L941, 11-84
 (barcode L 0055781)

- Rhodymenia caulescens* (Kützing) Millar (= *Sphaerococcus*
caulescens Kützing) 4 Type: L 941, 311-36
 (barcode L 0194041)

- Gloiosaccion brownii* Harvey (as *Botryocladia brownii* (Harvey)
 P.C. Silva ex Nelson & Adams) 1

- Botryocladia leptopoda* (J. Agardh) Kylin 1, 3

- Botryocladia occidentalis* (Børgesen) Kylin 1

- Chameobotrys boergesenii* (Weber-van Bosse) Huisman 3

- Chrysymenia kaernbachii* Grunow 3

- Chrysymenia* cf *littleriana* J. N. Norris & D. L. Ballantine 3 AL 537a

- Chrysymenia ornata* Kylin 2 NSW611803

- Chrysymenia polyglanulosa* Okamura 1

- Coelarthrum cliffonii* (Harvey) Kylin (as *C. albertisii* (Piccone)
 Børgesen) 1

- **Halichrysis irregularis* (Kützing) Millar (= *Iridae irregularis* Kützing) 4, 3 *Type : L 941, 119-12
 (barcode L 0055963)

RHODOGORGONALES**RHODOGORGONACEAE**

- Renouxia antillana* Fredericq & J. N. Norris 3

- Rhodogorgon ramosissima* J. N. Norris & Bucher 3

OCHROPHYTA**PHAEOPHYCEAE****CUTLERIALES****CUTLERIACEAE**

- Cutleria mollis* Allender & Kraft 2, 3 NSW 611823

DICTYOTALES**DICTYOTACEAE**

- **Dictyota vieillardii* Kützing
 (*Vaughaniella* stage of an unidentified species of *Padina*) 4 *Type: L936, 291-5
 (barcode L 0194020)

- **Dictyota vieillardii* var. *B. filiformis* Kützing
 (*Vaughaniella* stage of an unidentified species of *Padina*) 4 *Type: L936, 291-4
 (barcode L 0194023)

- Dictyopteris acrostichoides* (J. Agardh) Bornet 1

- Dictyopteris australis* (Sonder) Askenasy 1, 3 IRD 310

<i>Dictyopteris crassinervia</i> (Zanardini) O. C. Schmidt	3	IRD 305
<i>Dictyopteris delicatula</i> Lamouroux	3	IRD 446
<i>Dictyopteris plagiogramma</i> (Montagne) Vickers	1	
<i>Dictyopteris repens</i> (Okamura) Børgesen	3	
<i>Dictyota acutiloba</i> J. Agardh	1	
<i>Dictyota adnata</i> Zanardini	3, 8	L 936.291-7; (Vieillard, L937.117-12C); (L 937.117-86)
<i>Dictyota bartayresiana</i> Lamouroux	1	
<i>Dictyota cervicornis</i> Kützing	3	
<i>Dictyota ceylanica</i> Kützing	3	
<i>Dictyota dichotoma</i> (Hudson) Lamouroux	1	
(According to de Clerck <i>D. dichotoma</i> is restricted to the North Atlantic; the Pacific species cited as <i>D. dichotoma</i> should bear another name)		
<i>Dictyota furcellata</i> (C. Agardh) Greveille	1	
<i>Dictyota grossedentata</i> De Clerck & Coppejans	3	
<i>Dictyota moniliformis</i> (J. Agardh) Hörnig, Schnetter & Prud'homme van Reine	3	
<i>Distromium decumbens</i> (Okamura) Levring	3	IRD 247
<i>Distromium didymothrix</i> Allender & Kraft	3	IRD 320
<i>Distromium flabellatum</i> Womersley	3	
<i>Homeostrichus flabellatus</i> Okamura	3	IRD 242, IRD 273, IRD 444
<i>Lobophora papenfusii</i> (W.R. Taylor) Farghaly	3	IRD 259
<i>Lobophora variegata</i> (Lamouroux) Womersley ex Oliveira	1, 3	IRD 276
<i>Padina australis</i> Hauck	3	IRD 158, IRD 172, IRD233, IRD 241
<i>Padina boryana</i> Thivy in Taylor (as <i>P. tenuis</i> (C. Agardh) Bory)	1	
<i>Padina gymnospora</i> (Kützing) Sonder	3	IRD 150, IRD 162
<i>Padina jonesii</i> Tsuda	3	IRD 165, IRD 199
<i>Padina melemele</i> Abbott & Magruder	3	IRD 219
<i>Padina minor</i> Yamada	3	IRD 173, IRD 166
<i>Padina pavonica</i> (Linnaeus) Thivy	1	(subject to any verification)
<i>Padina sanctae-crucis</i> Børgesen	3	IRD 207
<i>Padina stipitata</i> Tanaka & Nozawa	3	IRD 152, IRD 155, IRD 154 IRD 217
<i>Spatoglossum asperum</i> J. Agardh	1, 3	IRD 293, IRD 294, IRD 295
<i>Styopodium australisacum</i> (Zanardini) Allender & Kraft	3	IRD 289
<i>Styopodium flabellatum</i> Weber-van Bosse	3	IRD 285
<i>Styopodium zonale</i> (Lamouroux) Papenfuss	1	subject to any verification
<i>Taonia australasica</i> J. Agardh	3	
<i>Zonaria</i> (?) <i>stipitata</i> Tanaka & K. Nozawa	3	IRD 260, IRD 263, IRD 267

ECTOCARPALES

ACINETOSPORACEAE

<i>Feldmannia irregularis</i> (Kützing) Hame	1	
<i>Hincksia indica</i> (Sonder) J. Tanaka (as <i>Feldmannia indica</i> (Sonder) Womersley & Bailey)	1	

CHORDARIACEAE

* <i>Cladosiphon novae-caledoniae</i> Kylin	1, 3	
<i>Spermatochmus paradoxus</i> Kützing	1	

SPHACELARIACEAE

* <i>Sphacelaria cornuta</i> Sauvageau	1	Type locality: Canala, New Caledonia Type: PC
* <i>Sphacelaria novae-caledoniae</i> Sauvageau	1	Type locality: Noumea, New Caledonia Type: PC
<i>Sphacelaria rigidula</i> Kützing	1	
<i>Sphacelaria tribuloides</i> Meneghini	1	

FUCALES

CYTOSEIRACEAE

- Cystoseira trinodis* (Forsskal) C. Agardh
(as *Cystophyllum muricatum* (Turner) J. Agardh) 1, 3
Hormophysa cuneiformis (Gmelin) Silva (as *H. triquetra*
(C. Agardh) Kutzing) 1, 3

SARGASSACEAE

- Sargassum albermarlense* Taylor 1 [subject to any verification]
Sargassum carpophyllum J. Agardh 1, 3 NC05-1016, NC05-1165
Sargassum cinctum J. Agardh 1 [subject to any verification]
Sargassum coriifolium J. Agardh 1 [subject to any verification]
Sargassum crassifolium J. Agardh 1, 3 NC05-1000, NC05-1097
Sargassum (*Phyllotrichia*) *decurrans* (Brown ex Turner) C. Agardh
(as *S. boryi* C. Agardh, and as *S. scabripes* J. Agardh) 1, 3 NC05-1051, NC05-1027
Sargassum desvauxii (Mertens) C. Agardh 1 [subject to any verification]
Sargassum cristaeifolium C. Agardh (as *S. duplicatum* J. Agardh) 1, 3 IDP05-309, NC05-1161
Sargassum echinocarpum J. Agardh 1, 3 NC06-027, IDP05-1010
Sargassum filifolium C. Agardh 1 [subject to any verification]
Sargassum fissifolium (Mertens) C. Agardh 1 [subject to any verification]
Sargassum flavicans (Mertens) C. Agardh 1 [subject to any verification]
Sargassum ilicifolium (Turner) C. Agardh 1, 3 NC02-34, NC05-998
Sargassum linearifolium (Turner) C. Agardh 1 [subject to any verification]
Sargassum lophocarpum J. Agardh 1 [subject to any verification]
Sargassum myriocystum J. Agardh 1 [subject to any verification]
Sargassum oligocystum Montagne 1 [subject to any verification]
Sargassum polyacanthum J. Agardh 1 [subject to any verification]
Sargassum polycystum C. Agardh 1, 3 NC05-1061, NC05-1167
Sargassum spathulaefolium J. Agardh 1 [subject to any verification]
Sargassum spinuligerum Sonder 1, 3 NC06-044, NC05-973
Sargassum spinuligerum var. *crispata* (Sonder) J. Agardh 3 **NC05-999, NC05-1060**
Sargassum stenophyllum J. Agardh 1 [subject to any verification]
Sargassum torvum J. Agardh 1 [subject to any verification]
**Sargassum turbinarioides* Grunow 1, 3 IDP05-1056
Sargassum verruculosum (Mertens) C. Agardh 1 [subject to any verification]
Turbinaria ornata (Turner) J. Agardh 1, 3
Turbinaria conoides (J. Agardh) Kützing 3

SCYTOTHAMNALES

SCYTOTHAMNACEAE

- Asteronema breviarticulatus* (J. Agardh) Ouriques & Bouzon 3

SCYTOSIPHONALES

CHNOOSPORACEAE

- Chnoospora implexa* J. Agardh 1, 3

SCYTOSIPHONACEAE

- Colpomenia sinuosa* (Mertens ex Roth) Derbès & Solier 1, 3
Colpomenia ecuticulata Parson 3
Hydroclathrus clathratus (C. Agardh) Howe 1, 3
Hydroclathrus tenuis CK Tseng & Lu 3
Rosenvingea intricata (J. Agardh) Børgesen 1, 3
Rosenvingea nhatrangensis Dawson 3

SPOROCHNALES**SPOROCHNACEAE**

<i>Bellotia simplex</i> Denizot	1, 3
<i>Nereia intricata</i> Yamada	3
<i>Sporochnus</i> sp 1	3
<i>Sporochnus</i> sp 2	3

Appendix 2: seagrasses (Marine Angiosperms) from New Caledonia

3: Payri Collection housed at IRD, 10: Den Hartog (1970) ; 11: Larkum (1995);

SPERMATOPHYTA**ALISMATALES****CYMODOCEAE**

<i>Cymodocea rotundata</i> Ehrenberg & Hemprich ex Ascherson	10, 3	Balansa 3103 (PC); Cribs 208 (PC)
<i>Cymodocea serrulata</i> (R. Brown) Ascherson & Magnus	10, 3	Balansa, 1527 (PC); Catala 19 (NSW)
<i>Halodule uninervis</i> (Forskål) Ascherson	10, 3	Balansa, 1528, 1529 (PC)
<i>Halodule pinifolia</i> (Miki) den Hartog	10, 3	McKee 7891 (US)
<i>Syringodium isoetifolium</i> (Ascherson) Dandy	10, 3	Balansa, 1526 (PC)

HYDROCHARITACEAE

<i>Enhalus acoroides</i> (Lf.) Royle	10, 3	Vieillard, 1412 (CN) ; Balansa, 3162 (PC)
<i>Halophila capricorni</i> Larkum	11, 3	Garrigue, NSW S153; Larkum NSW S122-124
<i>Halophila decipiens</i> Ostenfeld	10, 3	Vieillard, 1368 (CN, PC)
<i>Halophila minor</i> (Zolinger) den Hartog (as <i>H. ovata</i> Gaud.)	10, 3	Balansa, 1525 (PC)
<i>Halophila ovalis</i> (R. Brown) Hook.	10, 3	Balansa, 1525 (PC)
<i>Thalassia humprechii</i> (Ehrenberg) Ascherson	10, 3	Balansa, 3103, 3161 (PC)



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Cymodocea rotundata



© IRD/Catherine Godfray

Cymodocea serrulata



© IRD/Jean-Louis Menou

Cymodocea serrulata



© IRD/Jean-Louis Menou

Halodule pinifolia



© IRD/Jean-Louis Menou

Halodule uninervis



© IRD/Catherine Godfray

Syringodium isoetifolium



© IRD/Jean-Louis Menou

Syringodium isoetifolium



© IRD/Jean-Louis Menou

Enhalus acoroides



© IRD/Jean-Louis Menou

Halophila capricorni



© IRD/Jean-Louis Menou

Halophila decipiens



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Halophila decipiens



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Halophila minor



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Halophila ovalis



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Halophila ovalis



© IRD/Catherine Durberg

Thalassia hemprichii



© IRD/Jean-Louis Menou

Thalassia hemprichii



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Caulerpa racemosa (Chlorophyta)



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Codium saccatum (Chlorophyta)



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Halimeda discoidea (Chlorophyta)



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Rhipilia penicilloides (Chlorophyta)



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Struvea thoracica (Chlorophyta)



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Udotea geppiorum (Chlorophyta)



© IRD/Jean-Louis Menou

Dictyopteris crassinervia (Ochrophyta)



© IRD/Catherine Gouffray

Distromium didymothrix (Ochrophyta)



Padina stipitata (Ochrophyta)

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Sargassum decurrens (Ochrophyta)

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Chondria ryukyuensis (Rhodophyta)

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Corynecystis prostrata (Rhodophyta)

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Dasyphila plumarioides (Rhodophyta)

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Lenormandiopsis lorentzii (Rhodophyta)

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Lithothamnion proliferum (Rhodophyta)

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Pinnatiphycus menouii (Rhodophyta)

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Edited by
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