Marine Macroalgae of King Island

King Island, Tasmania

22nd October – 31st October 2023

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Dr Fiona J. Scott

Marine Macroalgae & Seagrasses

Contents

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List of contributors to this report.			
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Abstract

A 10-day targeted survey of marine macroalgae and seagrasses was conducted at sites along the King Island coastline, as part of the Bush Blitz King Island expedition in October 2023. Voucher specimens were prepared for accession into the Tasmanian Herbarium, Hobart.

156 specimens, representing **116** individual taxa, were collected and processed for archival storage at the Tasmanian Herbarium, Hobart. Many taxa proved to have a range that includes the southern coasts of mainland Australia and/or mainland Tasmania.

65 taxa recorded represent new records for King Island

14 un-named taxa were amongst the collections (their identification not possible die to paucity of material).

8 taxa recorded represent new records for Tasmania.

9 taxa were found to be regarded as notable range extensions.

1. Introduction

The Bass Strait region in many ways represents a natural biogeographic border between Tasmania and mainland Australia. The marine flora of King Island comprises species also commonly found along Victorian coastlines, as well as species more commonly associated with the 'cold' waters surround Tasmania.

Barret & Edgar (1992) describe the reef habitats of King Island appearing to be those "of predominantly moderate exposure along the eastern coastline and moderate to heavy exposure along the western coastline". They are also many expanses of sandy beaches which have an adjacent sandy near-shore seabed.

The island is home to a substantial seaweed industry of long standing (since 1976), Kelp Industries P/L, near the township of Currie. Their main activities involve the drying and milling of storm-cast bull kelp, *Durvillaea potatorum* (Fig. 1), mainly for their alginate content.

Generally, marine algae have been collected on and *ad hoc* basis from King Island, with the exception of isolated surveys carried out in 1992 (Barrett & Edgar) and Parsons (2012). In general, the island can be considered not comprehensively surveyed for marine algal taxonomic groups. A small number of publications have recorded various marine macroalgae from King Island, of which an even smaller number have vouchered specimens held in a registered Australian herbarium.

The aim of the current survey was to secure a voucher collection of marine algae and record the known biodiversity.

2. Methods

2.1 Site selection

Sites were selected in order to represent a variety of marine algal habitats, including sandy beach, rocky shore and subtidal habitats (Fig. 1, Table 1). Safe collecting practices were undertaken according to weather, tide and sea-state conditions, over a 10-day period from eleven coastal sites.

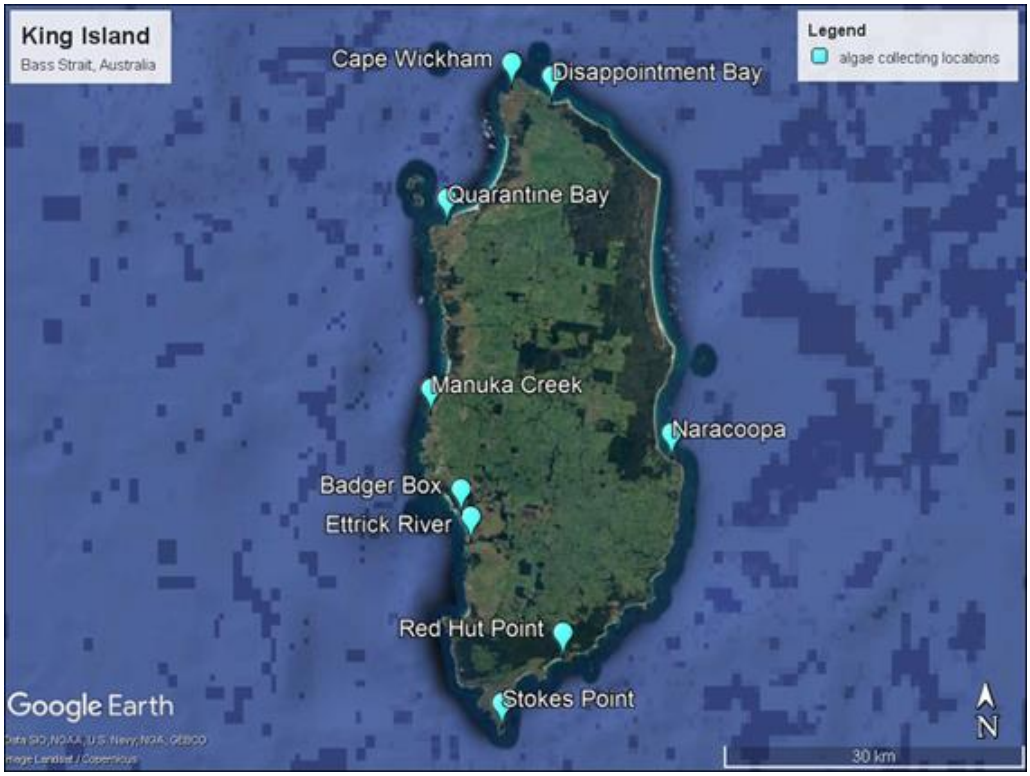

Fig. 1. Macroalgal sampling sites, King island, October 2023.

Table 1. Sampling location data.

DATE	Site Name (& habitat)	Lat. (WGS 84)	Long. (WGS 84)	Method, Depth	No. vouchered specimens
23/10/2023	Naracoopa boat ramp (sand & rock beach)	39°55'9.05"S	144° 7'19.93"E	drift, 0 m	54 macroalgae 1 seagrasses
25/10/2023	Manuka Rd (rocky shore)	39°52'48.07"S	143°50'40.20"E	drift, 0 m	19 macroalgae
25/10/2023	Cape Wickham (rocky shore)	39°35'20.55"S	143°56'20.24"E	intertidal rocks, 0 m	3 macroalgae
25/10/2023	Disappointment Bay (boulders on sandy beach)	39°36'3.06"S	143°59'7.75"E	intertidal boulders, 0 m	8 macroalgae 1 seagrass
26/10/2023	Badger Box (rocky shore)	39°58'10.55"S	143°52'45.75"E	intertidal rocks, 0 m	1 macroalga
27/10/2023	Ettrick River mouth (rocky shore)	39°59'38.89"S	143°53'27.03"E	drift, 0 m	14 macroalgae
27/10/2023	Stokes Point (rocky shore)	40° 9'38.49"S	143°55'35.91"E	drift, 0 m	6 macroalgae
28/10/2023	Red Hut Point (rocky shore)	40° 5'52.07"S	143°59'51.41"E	drift, 0 m	1 macroalga
29/10/2023	Naracoopa (shallow reef, 1 m depth)	39°55'11.16"S	144° 7'28.55"E	snorkel, -1 m	16 macroalgae
29/10/2023	Naracoopa Jetty (pylons, 3-5 m depth)	39°55'7.63"S	144° 7'35.33"E	snorkel, -3-5 m	18 macroalgae
30/10/2023	Quarantine Bay (rocky shore)	39°42'36.90"S	143°51'49.28"E	drift, 0 m	3 macroalgae

2.2 Collection methods

Three separate collection methods were undertaken: 1. Drift (cast) material collected by hand from sandy or rocky shorelines; 2. Intertidal reef or sandy habitats sampled for algae, removing material using a thin-bladed knife from; 3. Subtidal algae harvested individually from various depths, similarly using a thin-bladed knife. Collection by means of SCUBA diving was not logistically practical for this expedition, with the consequence of not being able to collect deeper-water macroalgae from *in situ*. Unfortunately, the prevailing strong winds during October 2023 prevented some planned snorkelling efforts.

The combination of the 3 collection methods resulted in a reasonable depth profile for sampling effort, and overall, excellent collections were made. Specimens were collected under Scientific Research Permit No. 23097, issued by the Department of Natural Resources and Environment Tasmania. The material was processed either at the makeshift laboratory at the Bush Blitz base in Grassy, King Island, or subsequently at the Tasmanian Herbarium (Tasmanian Museum and Art Gallery).

Method 1. Drift (cast) algae collections. This method allowed selective sampling of recently cast-up algae, assumed to be dislodged from nearby subtidal habitats; collecting time ~ 60 min (Fig.2). The sites were Naracoopa (beach), Manuka Road (beach), Ettrick River mouth (rocky reef) and Stokes Point (rocky reef and beach).

Fig. 2 Drift algae at Manuka Beach, King Island.

Method 2. Intertidal algae collections. This method allowed selective sampling of hand-picked intertidal algae; collecting time ~ 60 min (Fig. 3). The sites were Cape Wickham coast (rocky shore), Disappointment Bay (boulders on sandy beach), and Ettrick River mouth (rocky reef).

Fig. 3. Intertidal algal collecting using a thin-bladed knife.

Method 3. Subtidal algae collections. This method allowed selective sampling of hand-picked subtidal algae whilst snorkelling; colleting time ~ 60 min (Fig. 4). The sites were Naracoopa (rocky reef and jetty pylons). Snorkelling was only possible during periods of good sea conditions, thus other method for collecting were eventually used for some of the planned snorkelling sites.

Fig. 4. Gearing up for algal collecting by snorkelling at Naracoopa.

2.3 Identifying the collections

A number of species were identified at the time of collection (personal expertise). Other species, particularly the small turfing and epiphytic species, were identifiable only after subsequent examination in a laboratory setting, often requiring use of a microscope. Specimens were archived as dried herbarium specimens and/or microscope slide preparations, each one assigned with a Tasmanian Herbarium (HO) number. For a small number of species there was insufficient material to be able to make a definitive identification.

Algal nomenclature and taxonomy used in this report are consistent with current (2024) entries listed on AlgaeBase®.

The following resources were consulted (full citations are in the Reference section):

Womersley (1984, 1987, 1994, 1996, 1998, 2003) Marine Benthic Flora of Southern Australia

Baldock (2015) Algae Revealed (online resource)

Guiry & Guiry (searched 2023) AlgaeBase (online resource)

Huisman (2023) Marine Plants of Australia

Scott (2013) Marine Plants of Tasmania

Australian Virtual Herbarium (searched 2023) (online resource)

Nelson (2013) New Zealand Seaweeds. An Illustrated Guide.

Waycott *et al*. (2014) A guide to Southern Temperate Seagrasses

Parsons (2012) Marine Impact Assessment Report

3. Results and Discussion

3.1 Named taxa newly recorded for the reserve

The collections are now held as vouchered specimens at the Tasmanian Herbarium

Overall, 156 voucher specimens were collected, representing 116 taxa.

Of the 116 taxa, 113 were macroalgae and 2 were seagrasses. (Table 2).

Voucher specimens have been prepared and data-based for accession into the Tasmanian Herbarium, Hobart (Appendix 1, Bush Blitz point data), and form a valuable contribution to the 15,000 algae currently accessioned in this herbarium.

Images of many freshly-collected specimens are presented in Appendix 2.

Table 2. Summary of algal species per Taxonomic Division

Group	Taxonomic Division	No. named species	No. un-named species
Blue-green algae	Cyanophyceae	1	0
Green algae	Chlorophyceae	12	0
Brown algae	Phaeophyceae	36	0
Red algae	Rhodophyceae	65	4
Seagrasses	Magnoliophyta	2	0
TOTAL		116	19

King Island marine habitats.

Sixty-four taxa are newly recorded for King Island marine environments, 8 of which represent new records for Tasmania (Table 3). The occurrence of the majority of these species generally represent infill of known distribution records, but the 8 newly recorded taxa represent significant range extensions. Overall, the data in this current report now represent verifiable evidence (herbarium specimens) of their occurrence in King Island marine habitats.

Table 3. Named taxa newly recorded from King Island marine habitats.		**New record for TAS**
Taxon	Comment	
GREEN ALGAE		
Bryopsis macraildii	also recorded from WA, SA and Vic	
Caulerpa remotifolia	also recorded from WA, SA., Vic and other parts of Tas	
Chaetomorpha coliformis	also recorded from WA, SA., Vic and other parts of Tas	
Gayralia oxysperma	widely distributed in Australia and NZ	
Ulva australis	widely distributed in Australia and NZ	
Ulva intestinalis	widely distributed in Australia and NZ	
BROWN ALGAE		
Cladosiphon filum	also recorded from WA, SA., Vic and other parts of Tas	
Dilophus fastigiata	also recorded from Qld, WA, SA, Vic.	**+**
Lobospira bicuspidata	also recorded from SA, Vic, NSW and Deal I.	
Lessonia corrugata	possibly the northernmost record for this species	
Myriogloea scirius	also recorded from SA, Vic, NSW. and other parts of Tas	
Notheia anomola	also recorded from WA, SA, Vic, NSW and other parts of Tas	
Carpoglossum confluens	also recorded from SA, Vic and other parts of Tas	
Cystophora brownii	also recorded from WA, SA, NE Tas	
Cystophora pectinata	also recorded from WA, SA, Vic and other parts of Tas	
Cystophora playlobium	also recorded from SA, Vic, NSW, other parts of Tas, NZ	
Halopteris paniculata	also recorded from SA, Vic and other parts of Tas, NSW, NZ	
Myriodesma calophyllum	also recorded from SA, Vic, other parts of Tas	
Phyllospora comosa	also recorded from SA, Vic, other parts of Tas, Lord Howe I.	
Sargasum fallax	also recorded from WA, SA, Vic, NSW, other parts of Tas	
Sargassum lacerifolium	also recorded from WA, SA, Vic, NSW, other parts of Tas	
Colpomenia peregrina	also recorded from WA, SA, Vic, NSW, Qld, other parts of Tas	
Colpomenia sinuosa	also recorded from WA, SA, Vic, NSW, Qld, other parts of Tas	

Seirococcus axillaris	also recorded from SA, Vic, other parts of Tas	
Perithalia caudata	also recorded from SA, Vic, other parts of Tas	
Sporochnus comosus	also recorded from WA, SA, Vic, NSW, Qld and other parts of Tas	
RED ALGAE		
Anotrichium crinitum	also recorded from SA, Vic, other parts of Tas, NSW, NZ	
Anotrichium licmophorum	also recorded from WA, SA, Vic	
Anotrichium subtile	also recorded from SA, Vic, NSW	
Callithamnion caulescens	also recorded from SA, northern coast of Tas	
Capreolia implexa	also recorded from SA, Vic, NSW, Tas	
Ceramium flaccidum	probably cosmopolitan in cold temperate to tropical seas	
Champia zostericola	also recorded from WA, SA, Vic, NSW and other parts of Tas	
Chondria succulenta	also recorded from WA, SA, Vic, NSW, Qld	+
Dasya ceramioides	also recorded from WA, SA, Vic, NSW and other parts of Tas	
Dasya cliftonii	also recorded from WA, SA	+
Dasya villosa	also recorded from WA, SA, Vic, and other parts of Tas	
Dasyclonium incisum	also recorded from WA, SA, Vic, NSW, Tas, NZ	
Dasysiphonia clavigera	also recorded from WA, SA, Vic, and other parts of Tas	
Dicranema revolutum	also recorded from WA, SA, Vic, Flinders I.	
Echinothamnion hookeri	also recorded from WA, SA, Vic, around Tas	
Erythroclonium sonderi	also recorded from WA, SA, northern coast of Tas	
Gelidium pusillum	also recorded from WA, SA, Vic, NSW, Tas	
Griffithsia ovalis	also recorded from WA, SA	+
Heterosiphonia wrangelioides	also recorded from WA, SA, Vic, northern Tas	
Hypnea ramentacea	also recorded from WA, SA, Vic, northern coast of Tas	
Macrothamnion secundum	also recorded from SA, Vic	
Mazoyerella arachnoidea	also recorded from SA, northern Tas	
Nitophyllum crispum	also recorded from SA, Vic, and other parts of Tas	
Parviphycus antipae	also recorded from SA, Vic, NSW	+
Phacelocarpus peperocarpos	also recorded from WA, SA, Vic, other parts of Tas	
Phitymophora amansioides	unusual distribution New Amsterdam I..Vic, SA	+
Platysiphonia delicata	also recorded from WA, SA, Vic, NSW, Qld, northern coast of Tas	
Polysiphonia brodeii	also recorded from SA, Vic, other parts of Tas	
Polysiphonia decipiens	also recorded from WA, SA, Vic, NSW, Tas, NZ, Chile	
Polysiphonia subtilissima	also recorded from SA, Vic, around Tas, NSW	
Ptilocladia vestita	also recorded from WA, SA, Vic, northern coast of Tas	
Synarthrophyton patena	also recorded from WA, SA, Vic, other coasts of Tas	

Thuretia quercifolia	also recorded from WA, SA, Vic, northern and SW coast of Tas	
Tolypiocladia penningtonensis	Previously only recorded from Kangaroo I.	+
Trematocarpus affinus	SA, West Africa	+
Webervanbossea splachnoides	also recorded from WA, SA, Vic, north and SE coast of Tas	
Wollastoniella mucronata	also recorded from SA, Vic, northern Tas	
BLUEGREEN ALGAE		
Symploca sp.	genus is widespread	
SEAGRASSES		
Amphibolis antarctica	also recorded from WA, SA, Vic, northern Tas	

3.2 Un-named or not formalised taxa

King Island marine habitats

For a small number of specimens, distinct entities were evident, however 14 taxa withstood definitive identification (Table 4).

Table 4. Putatively un-named or not formalised taxa in King Island marine habitats.

Taxon	**Comment**
unknown cf Botryocladia 6969	insufficient material
unknown cf Acrosorium 6860	insufficient material
unknown delesseriaceae 6971	insufficient material
unknown cf Dasya 6859, 6873, 6877, 6851	insufficient material
unknown cf Kuetzingia 6872	insufficient material
unknown cf Crouania 6875, 6856, 6932, 6970	insufficient material
unknown cf Jania 6850, 6871, 6907	insufficient material
unknown cf red membrane 6906	insufficient material
unknown cf green or red 6935	insufficient material
unknown cf red 6965	insufficient material
unknown cf red bulbous 6969	insufficient material
unknown cf red creeping epiphyte 6933	insufficient material
unknown cf red epiphyte 6877, 6851, 6859	insufficient material

3.3 Putative new species (new to science)

King Island marine habitats

No putative new species were collected during the survey.

Table 5. Putative new species (new to science)	
Species	**Comment**
n/a	

3.4 Weed or pest species

King Island marine habitats

In the marine environment, no weed or pest species were observed. The green alga *Codium fragile* is considered a pest species in a number of Australian marine locations. However, it is considered as part of the native temperate marine flora for King Island.

Table 6. State or National weed or pest species recorded in King Island marine habitats.			
Pest/weed species	**Location sighted/observed**	**Indication of abundance**	**Comments**
n/a			

3.5 Vulnerable, threatened or endangered species

King Island marine habitats

Macrocystis pyrifera (giant kelp) has previously been recorded for King Island (Parsons 2012). This species is currently protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) as the foundation species of a threatened ecological community. It was not recorded in the current King Island algal survey.

Table 7. Vulnerable, threatened or endangered species from King Island marine habitats.			
Species	**Listing status and level (EBPC, State/Territory)**	**Location sighted/observed**	**Indication of abundance**
Macrocystis pyrifera	threatened ecological community	not sighted during this survey	unknown

3.6 Range extensions

The majority of taxa newly recorded for King Island represent infill data in terms of known geographic ranges, which by and large include the southern Victorian coast, the northern Tasmanian coast, and sometimes the Hogan Island group in eastern Bass Strait. However, several noteworthy range extensions are now recorded (Table 8).

Table 8. Range extensions or significant infill in distribution records for species from King Island marine habitats.

Species	Location sighted/observed	Distance from nearest known record (kms)	Comments
Tolypyocladia penningtonensis	Naracoopa, east coast of King I.	718 km	Previously only known from Pennington Bay, Kangaroo I., SA
Trematocarpus affinis	Manuka Road rocky coast, King I.	651 km	Previously known from West I., SA, as well as the west coast of South Africa
Dilophus fastigiatus	Ettrick River mouth, west coast, King I.	229 km	Previously known range from Champion Bay, WA to Walkerville, Vic
Dasya cliftonii	Naracoopa, east coast of King I.	682 km	Previously known range from Cliff Head, WA to Sturt Bay, SA. The new record represents the easternmost occurrence.
Phitymophora amansioides	Naracoopa, east coast of King I.	229 km	Known from range from SA, Vic, NSW, Tas, also from Isle Nouvelle Amsterdam (Indian Ocean)
Callithamnion caulescens	Naracoopa, east coast of King I.	181 km	Known range from Ardrossan, SA to Port Phillip,Vic, and northern Tas.
Macrothamnion secundum	Naracoopa, east coast of King I.	181 km	Known range from Pearson I., SA to Port Phillip,Vic, and northern Tas.
Griffithsia ovalis	Naracoopa, east coast of King I.	702 km	Previously known range from Houtman Abrolhos, WA, to Kangaroo I. SA. The new record represents the easternmost occurrence.
Lessonia corrugata	Manuka Road rocky coast, King I.	40 km	Presumed to be a Tasmanian endemic, The new record represents the northernmost verifiable record.

4. Information on species lists

Few previous databases or published articles on the marine flora of King Island were available for consultation prior to the current survey (Table 9).

According to AVH / ALA data (interrogated Nov 2023) the number of vouchered algal specimens from King Island held in Australia herbaria is less than sixty. These all being vouchered specimens, I consider the quality of the species lists as reputable

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Table 9. Numbers of marine algae and seagrasses previously recorded from King Island.

Author (s)	Macroalgae (no. taxa)	Seagrasses (no. taxa)
Ewart (1907)	31	0
Lucas (1928)	3	0
Guiler (1952)	3	0
Womersley (1984–2003)	6	0
Barrett & Edgar (1992)	43	0
Parsons (2012)	46	0
Australian Virtual Herbarium (AVH) database (interrogated 2023)	13	0
Atlas of Living Australia (ALA) database (interrogated 2023)	40	0
Tasmanian Herbarium (HO) database (interrogated 2023)	4	0

5. Information for land managers

No marine habitats around King Island have specific conservation protection, although surveys conducted in 1992 (Barrett & Edgar 1992) identified New Years Island plus the nearby Christmas Island (off the NW coast) may be valuable as a western Bass Strait marine reserve. They wrote, in their discussion about potential marine reserves for Tasmania, “The waters... encompass a wide range of habitats including deep and shallow reef, exposed reef, sheltered reef, and seagrass, all within close proximity.”

Due to the rough weather and subsequent confines of logistics for the October 2023 expedition, it is impossible to make any statement in this report about information for marine areas management; systematic subtidal surveys and collections would be required to update previously recorded information.

6. Conclusions

The Bush Blitz King Island 2023 expedition facilitated the target collecting of marine macroalgae and seagrasses. The collections are now held as vouchered specimens at the Tasmanian Herbarium, Hobart and form a valuable contribution to the 15,000 algae currently accessioned in this herbarium.

From the combined literature and databases, the number of marine macroalgae and seagrasses recorded from King Island is 213. Because of the historically fragmented and *ad hoc* nature of collections made from its waters, there is no doubt that 213 taxa is an underestimate of the diversity of the marine flora of the island, and that upon comprehensive subtidal surveys the number will be prove to be much greater.

For the current (October 2023) survey:

156 specimens, representing **116** individual taxa, were collected and processed for archival storage at the Tasmanian Herbarium, Hobart. Many taxa proved to have a range that includes the southern coasts of mainland Australia and/or mainland Tasmania.

65 taxa recorded represent new records for King Island. For most of these taxa their occurrence represents infill data in terms of geographic range.

9 taxa were found to be regarded as notable or unusual range extensions.

14 un-named taxa were amongst the collections (their identification not possible die to paucity of material).

8 taxa recorded represent new records for Tasmania.

Acknowledgements

The following people assisted directly with collecting algal specimens.

Matt Rose	***IMAS, University of Tasmania***	***snorkeller***	***collector***
Mark Wischnat	***King Island Coucil***	***snorkeller***	***collector***
Dr Kirrily Moore	***Zoology, TMAG***	***survey participant***	***collector***
Zoe Lawrence	***Tasmanian Herbarium, TMAG***	***survey participant***	***collector***
All (other) staff	***Tasmanian Herbarium, TMAG***	***Tasmanian Herbarium, TMAG***	***logistical support***
Emma Ducker	***teacher***	***survey participant***	***collector***
Liang-Yu Chen	***teacher***	***survey participant***	***collector***

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Appendices

Appendix 1. List of Marine macroalgae and Seagrasses collected from King Island marine habitats.

King Island marine habitats:

Number of taxa: 116 (including subspecies and varieties but without double counting).

Appendix 1. List of marine macroalgae and seagrasses recorded during the King Island Bush Blitz

Family	Species	Comm-on name	New record	Putative new species	EPBC	State	Weed or pest
CLASS CHLOROPHYCEAE (Green algae)							
Bryopsidaceae	Bryopsis macraildii	n/a	Yes	No	No	No	No
Caulerpaceae	Caulerpa remotifolia	n/a	Yes	No	No	No	No
Caulerpaceae	Caulerpa brownie	n/a	No	No	No	No	No
Caulerpaceae	Caulerpa flexilis	n/a	No	No	No	No	No
Caulerpaceae	Caulerpa obscura	n/a	No	No	No	No	No
Cladophoraceae	Chaetomorpha coliformis	n/a	Yes	No	No	No	No
Codiaceae	Codium fragile	n/a	No	No	No	No	No
Codiaceae	Codium pomoides	n/a	No	No	No	No	No
Ulavceae	Gayralia oxysperma	n/a	Yes	No	No	No	No
Ulavceae	Ulva sp.	n/a	No	No	No	No	No
Ulvaceae	Ulva australis	n/a	No	No	No	No	No
Ulvaceae	Ulva intestinalis	n/a	Yes	No	No	No	No
CLASS PHAEOPHYCEAE (Brown algae)							
Chordariaceae	Cladosiphon filum	n/a	Yes	No	No	No	No
Chordariaceae	Myriogloea sciurus	n/a	Yes	No	No	No	No
Cladostephaceae	Cladostephus spongiousus	n/a	No	No	No	No	No
Dictyotaceae	Dictyopteris muelleri	n/a	No	No	No	No	No
Dictyotaceae	Dictyota furcellata	n/a	No	No	No	No	No
Dictyotaceae	Dilophus fastigiata	n/a	No	No	No	No	No
Dictyotaceae	Lobospira bicuspidata	n/a	Yes	No	No	No	No
Dictyotaceae	Zonaria spiralis	n/a	No	No	No	No	No
Durvillaeaceae	Durvillaea potatorum	n/a	No	No	No	No	No
Ectocarpaceae	Ectocarpus siliculosus	n/a	No	No	No	No	No
Hormosiraceae	Hormosira banksia	n/a	No	No	No	No	No
Lessoniaceae	Ecklonia radiate	n/a	No	No	No	No	No
Lessoniaceae	Lessonia corrugata	n/a	No	No	No	No	No
Notheiaceae	Notheia anomala	n/a	Yes	No	No	No	No
Sargassaceae	Acrocarpia paniculata	n/a	No	No	No	No	No

Sargassaceae	Carpoglossum confluens	n/a	Yes	No	No	No	No
Sargassaceae	Caulocystis cephalornithos	n/a	No	No	No	No	No
Sargassaceae	Cystophora brownie	n/a	Yes	No	No	No	No
Sargassaceae	Cystophora monilifera	n/a	No	No	No	No	No
Sargassaceae	Cystophora moniliformis	n/a	No	No	No	No	No
Sargassaceae	Cystophora pectinate	n/a	Yes	No	No	No	No
Sargassaceae	Cystophora platylobium	n/a	Yes	No	No	No	No
Sargassaceae	Cystophora siliquosa	n/a	No	No	No	No	No
Sargassaceae	Cystophora torulosa	n/a	No	No	No	No	No
Sargassaceae	Halopteris paniculata	n/a	Yes	No	No	No	No
Sargassaceae	Myriodesma calophyllum	n/a	Yes	No	No	No	No
Sargassaceae	Phyllospora comosa	n/a	Yes	No	No	No	No
Sargassaceae	Sargassum fallax	n/a	Yes	No	No	No	No
Sargassaceae	Sargassum lacierifolium	n/a	Yes	No	No	No	No
Scytosiphonaceae	Colpomenia pergerina	n/a	Yes	No	No	No	No
Scytosiphonaceae	Colpomenia sinuosa	n/a	No	No	No	No	No
Scytosiphonaceae	Scytosiphon lomentaria	n/a	No	No	No	No	No
Seirococcaceae	Seirococcus axillaris	n/a	Yes	No	No	No	No
Sporochnaceae	Perithalia caudate	n/a	Yes	No	No	No	No
Sporochnaceae	Sporochnus comosus	n/a	Yes	No	No	No	No
Xiphophoralea	Xiphophora chondrophylla	n/a	No	No	No	No	No

CLASS RHODOPHYCEAE (Red algae)

Areshougiaceae	Erythroclonium sonderi	n/a	Yes	No	No	No	No
Balliacae	Ballia callitricha	n/a	No	No	No	No	No
Callithamniaceae	Callithamnion caulescens	n/a	No	No	No	No	No
Ceramiaceae	Ceramium flaccidum	n/a	Yes	No	No	No	No
Ceramiaceae	Ceramium sp. 6901	n/a	No	No	No	No	No
Ceramiaceae	Macrothamnion secundum	n/a	Yes	No	No	No	No
Ceramiaceae	Ptilocladia vestita	n/a	Yes	No	No	No	No
Rhodomelaceae	Dasyclonium incisum	n/a	Yes	No	No	No	No
Champiaceae	Champia viridis	n/a	Yes	No	No	No	No
Champiaceae	Champia zostericola	n/a	Yes	No	No	No	No
Corallinaceae	Synarthrophyton patena	n/a	Yes	No	No	No	No
Cystocloniaceae	Hypnea ramentacea	n/a	Yes	No	No	No	No
Dasyaceae	Dasya ceramioides	n/a	Yes	No	No	No	No
Dasyaceae	Dasya cliftonii	n/a	Yes	No	No	No	No
Dasyaceae	Dasysiphonia clavigera	n/a	Yes	No	No	No	No
Delessericeae	Dasya villosa	n/a	Yes	No	No	No	No
Delessericeae	Nitophyllum crispum	n/a	Yes	No	No	No	No
Delessericeae	Phitymophora amansioides	n/a	Yes	No	No	No	No
Delessericeae	Platysiphonia delicate	n/a	Yes	No	No	No	No
Delessericeae	Thuretia quercifolia	n/a	Yes	No	No	No	No

Dicranematales	Dicranema revolutum	n/a	Yes	No	No	No	No
Faucheaceae	Webervanbossea splachnoides	n/a	Yes	No	No	No	No
Gelidiaceae	Capreolia implexa	n/a	Yes	No	No	No	No
Gelidiaceae	Gelidium pusillum	n/a	Yes	No	No	No	No
Geliellaceae	Parviphycus antipae	n/a	Yes	No	No	No	No
Kallymeniaceae	Callophyllis rangeferina	n/a	No	No	No	No	No
Phacelocarpaceae	Phacelocarpus peperocarpos	n/a	No	No	No	No	No
Plocamiaceae	Plocamium angustum	n/a	No	No	No	No	No
Plocamiaceae	Plocamium mertensii	n/a	No	No	No	No	No
Plocamiaceae	Plocamium patagiatum	n/a	No	No	No	No	No
Porolithaceae	Metagoniolithon radiatum	n/a	No	No	No	No	No
Rhodomelaceae	Chondria succulent	n/a	Yes	No	No	No	No
Rhodomelaceae	Dasyclonium incisum	n/a	Yes	No	No	No	No
Rhodomelaceae	Dictyomenia harveyana	n/a	Yes	No	No	No	No
Rhodomelaceae	Echinothamnion hookeri	n/a	Yes	No	No	No	No
Rhodomelaceae	Echinothamnion hystrix	n/a	No	No	No	No	No
Rhodomelaceae	Heterosiphonia wrangelioides	n/a	Yes	No	No	No	No
Rhodomelaceae	Laurencia filiformis	n/a	No	No	No	No	No
Rhodomelaceae	Laurencia majuscule	n/a	No	No	No	No	No
Rhodomelaceae	Laurencia tasmanica	n/a	No	No	No	No	No
Rhodomelaceae	Polysiphonia brodeii	n/a	Yes	No	No	No	No
Rhodomelaceae	Polysiphonia decipiens	n/a	Yes	No	No	No	No
Rhodomelaceae	Polysiphonia subtilissima	n/a	Yes	No	No	No	No
Rhodomelaceae	Tolypiocladia penningtonensis	n/a	Yes	No	No	No	No
Sarcodiaceae	Trematocarpus affinus	n/a	Yes	No	No	No	No
Wrangeliaceae	Anotrichium crinitum	n/a	Yes	No	No	No	No
Wrangeliaceae	Anotrichium licmophorum	n/a	Yes	No	No	No	No
Wrangeliaceae	Anotrichium subtile	n/a	Yes	No	No	No	No
Wrangeliaceae	Griffithsia ovalis	n/a	Yes	No	No	No	No
Wrangeliaceae	Haloplegma preissii	n/a	No	No	No	No	No
Wrangeliaceae	Mazoyerella arachnoidea	n/a	Yes	No	No	No	No
Wrangeliaceae	Wollastoniella mucronata	n/a	Yes	No	No	No	No
Rhodymeniaceae	unknown cf Botryocladia 6969	n/a	No	No	No	No	No
Delessericeae	unknown cf Acrosorium 6860	n/a	No	No	No	No	No
Delessericeae	unknown delesseriaceae 6971	n/a	No	No	No	No	No
Dasyaceae	unknown cf Dasya 6859	n/a	No	No	No	No	No
Rhodomelaceae	unknown cf Kuetzingia 6872	n/a	No	No	No	No	No
Callithamniaceae	unknown cf Crouania 6932	n/a	No	No	No	No	No
Callithamniaceae	unknown cf Crouania 6970	n/a	No	No	No	No	No
Corallinaceae	unknown cf Jania 6850, 6871, 6907	n/a	No	No	No	No	No
	unknown red membrane cf Clymene 6906	n/a	No	No	No	No	No
	unknown cf green or red 6935	n/a	No	No	No	No	No
	unknown cf red 6862	n/a	No	No	No	No	No
	unknown cf red creeping epiphyte 6873	n/a	No	No	No	No	No

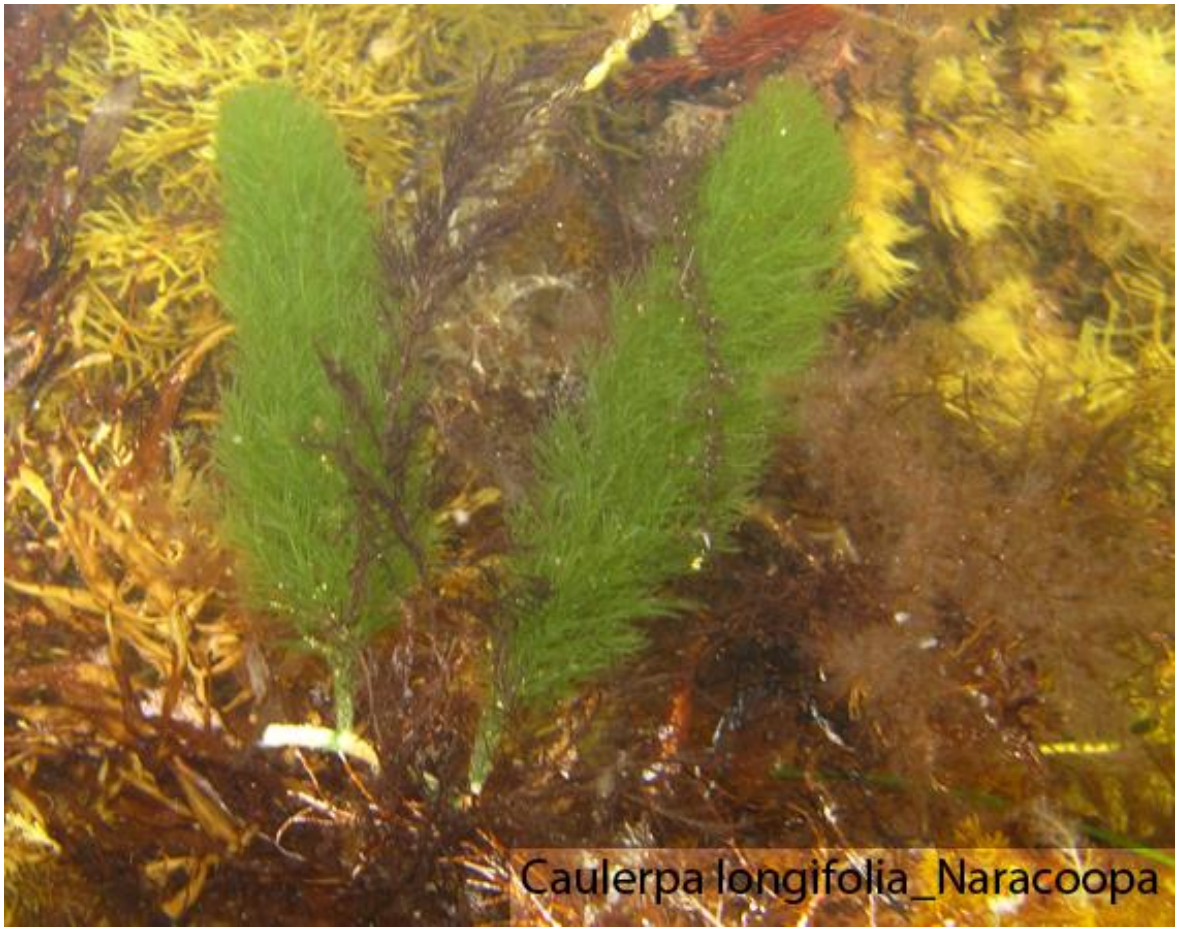
	unknown cf red epiphyte 6933	n/a	No	No	No	No	No
CYANOPHYCEAE (Blue-green algae)							
Coleofasiculaceae	Symploca sp.	n/a	No	No	No	No	No
CLASS MONOCOTS (Seagrasses)							
Cymodoceaceae	Amphibolis antarctica	n/a	Yes	No	No	No	No
Cymodoceaceae	Heterozostera nigricaulis	n/a	No	No	No	No	No

Appendix 2. Images of specimens

Images of freshly collected specimens, dried specimens, or microscope preparations are presented below. The images include the author's collection number. Tasmanian Herbarium (HO) numbers are to be assigned upon lodgement of the material (in 2024).

Green Algae

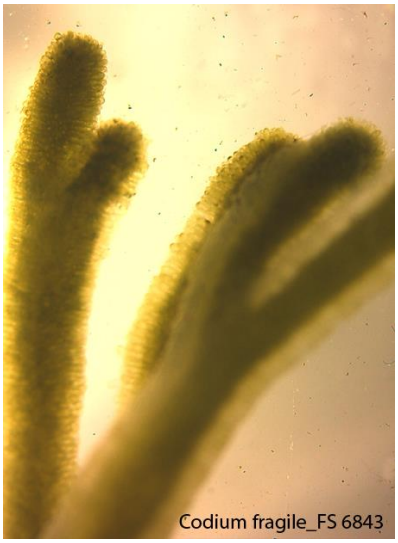
Caulerpa flexilis_FS 6838




Caulerpa obscura_FS 6837
Caulerpa remotifolia_ FS 6839


Chaetomorpha coliformis_FS6916


Codium fragile_Naracoopa

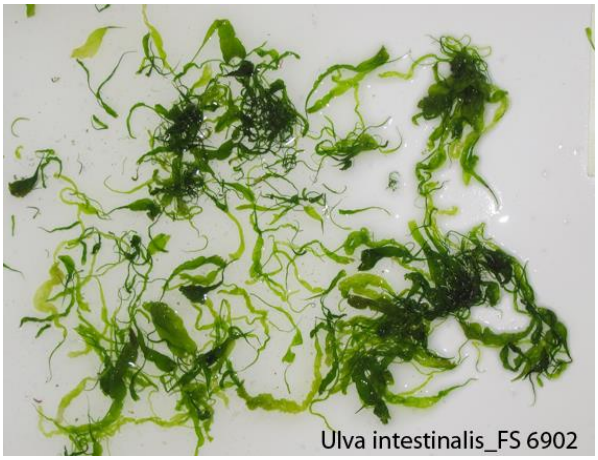

Codium fragile_FS 6843


Codium pomoides_FS 6943


Codium pomoides_FS 6943


Gayralia oxysperma_FS 6927


Ulva intestinalis_Cape Wickham


Ulva intestinalis_FS 6902

Brown Algae

Acrocarpia paniculata_FS 6884
growing on abalone shell


Acrocarpia paniculata _FS 6833


Carpoglossum confluens_FS 6832


Caulocystis cephalornithos_FS 6822


Cladosiphon filum_FS 6948


Cladostephus spongiosus_FS 6857


Colpomenia peregrina_FS 6917


Colpomenia sinuosa_ Naracoopa


Cystophora brownii_FS 6821


FS 6947
Cystophora brownii_FS 6947


Cystophora monilifera
FS 6823


Cystophora moniliformis
FS 6824
FS 6824


Cystophora pectinata_FS 6825
FS 6825


Cystophora platylobium_FS 6941


FS 6938
Cystophora platylobium


6883
Cystophora siliquosa_FS 6883


Cystophora torulosa_Naracoopa


Cystophora torulosa_FS 6826


Dictyopteris muelleri_FS6936


Dictyota furcellata_FS 6879


Dilophus fastigiata_FS 6920


Durvillaea potatorum_FS 6953


Durvillaea potatorum_FS 6953


Durvillaea potatorum_FS 6953


Durvillaea potatorum_Badger Box beach


FS 6900
Ecklonia radiata


Ectocarpus siliculosus_FS 6929, epiphytic on Dilophus


Halopteris paniculata_FS 6903


Halopteris paniculata_FS 6848

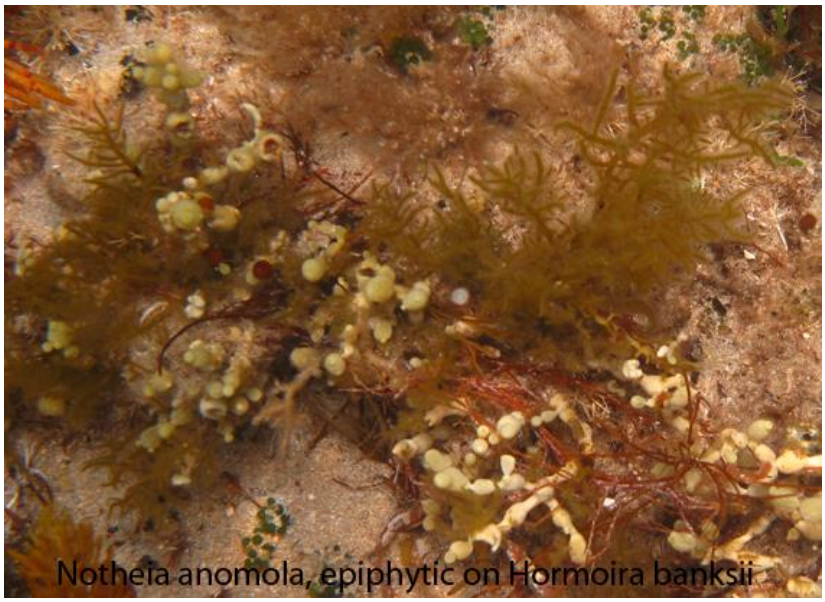

Hormosira banksii_Badger Box beach


Lessonia corrugata_FS6886
FS 6886


Lobospira bicuspidata_ FS 6830


Myriodesma
calophyllum
FS 6828


Myriogloea sciurus_FS 6912


Notheia anomola, epiphytic on Hormoira banksii


Notheia anomola_FS6918, epiphytic


Perithalia caudata_FS 6890


Perithalia caudata_FS 6890


FS 6836
Phyllospora comosa


Sargasssum fallax FS 6913


FS 6827
Sargassum lacerifolium


Scytosiphon lomentaria_BadgerBox beach


Scytosiphon lomentaria_FS 6914


Seirococcus axillaris_FS 6898


Seirococcus axillaris_FS 6898

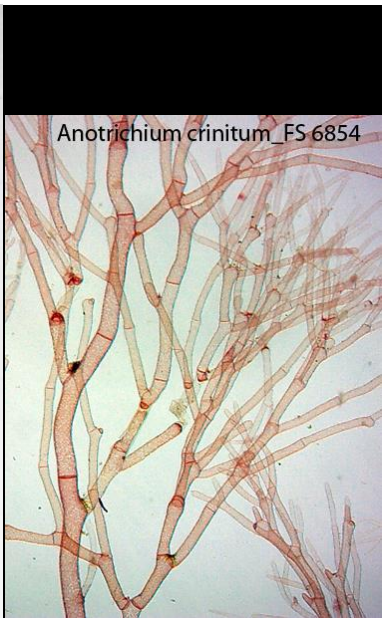

Sporochnus comosus_FS 6866


Xiphophora chondrophylla FS 6934


Zonaria spiralis_FS 6956

Red Algae


Anotrichium crinitum_FS 6854


Anotrichium crinitum_FS 6854


FS 6880
Anotrichium licmophorum


Anotrichium subtile_FS 6911


Ballia callitricha_FS 6889, epiphytic on Perithalia caudata

Capreolia implexa_Ettrick River mouth

Capreolia implexa_FS 6919

Ceramium flaccidum_FS 6910_epiphytic on Laurencia


Champia viridis_FS 6923

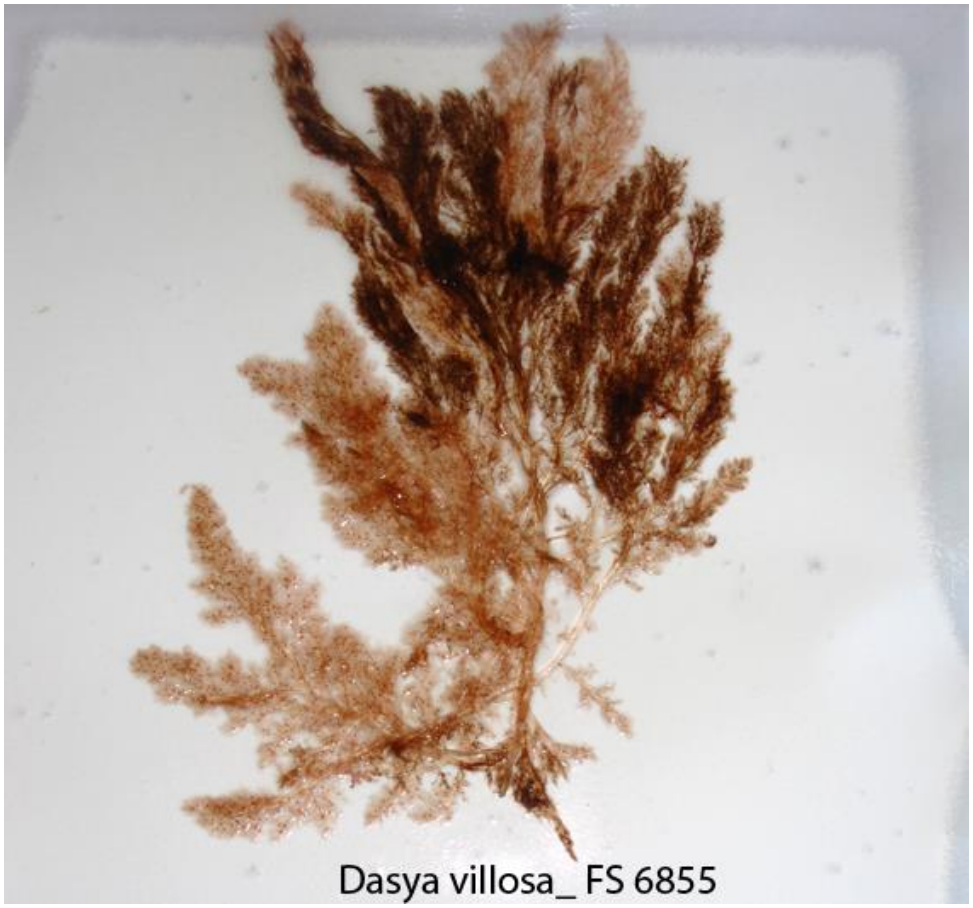

Champia zostericola_FS 6976

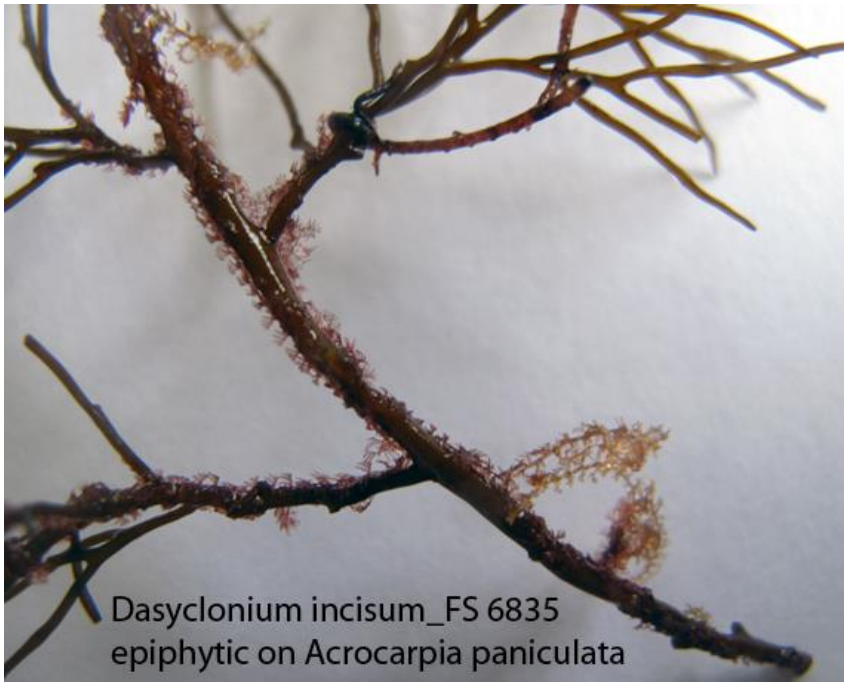

Chondria succulenta_FS 6874


Dasya ceramioides_FS 6930


Dasya cliftonii_FS 6942


Dasya cliftonii_FS 6942


Dasya villosa_ FS 6855


Dasyclonium incisum_FS 6835
epiphytic on Acrocarpia paniculata


Dasyclonium incisum_FS 6835


Dicranema revolutum_FS 6887, epiphytic on Amphibolis


Dictyomenia harveyana_FS 6941


Dictyomenia harveyana_FS 6941

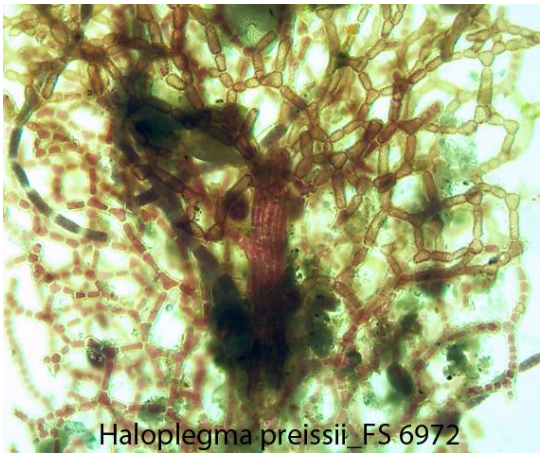

Echinothamnion hookeri FS 6857


Echinothamnion hookeri_FS 6857


Erythroclonium sonderi_FS 6944


Griffithsia ovalis_FS 6858
FS 6858


Haloplegma preissii_FS 6946


Haloplegma preissii_FS 6972


Heterosiphonia wrangelioides_FS 6945


Hypnea ramentacea_FS 6894
epiphytic on Metagoniolithon


Hypnea ramentacea_FS 6937


Laurencia filiformis_FS 6841


Laurencia filiformis_FS 6841


Laurencia majuscula_FS 6909_with epiphytes


Laurencia majuscula_FS 6863

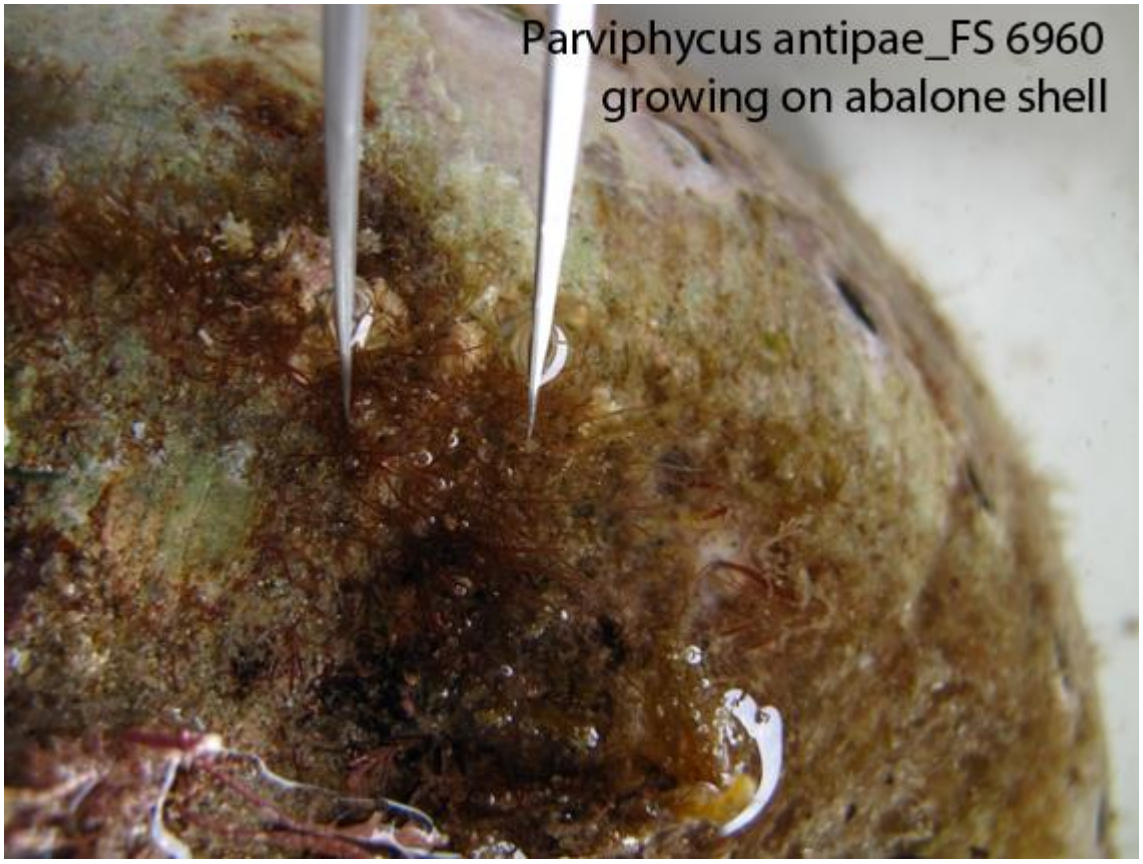

Macrothmnionm secundum_FS 6967


Metagoniolithon radiatum_ FS 6952


Nitophyllum crispum FS 6852


Nitophyllum crispum_FS 6852


Nitophyllum crispum_FS 6931


Parviphycus antipae_FS 6960
growing on abalone shell

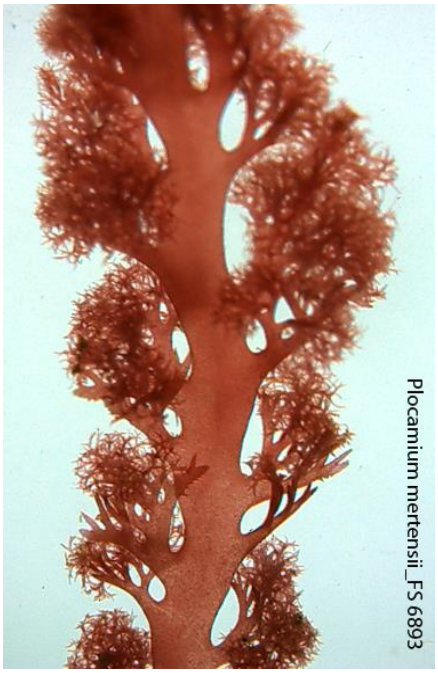

FS 6995
Phacelocarpus peperocarpos


Phitymophora amansioides_FS 6944


Platysiphonia delicata_FS 6868


Plocamium angustum_FS 6904
FS6904


Plocamium mertensii_FS 6897


Plocamium mertensii_FS 6893

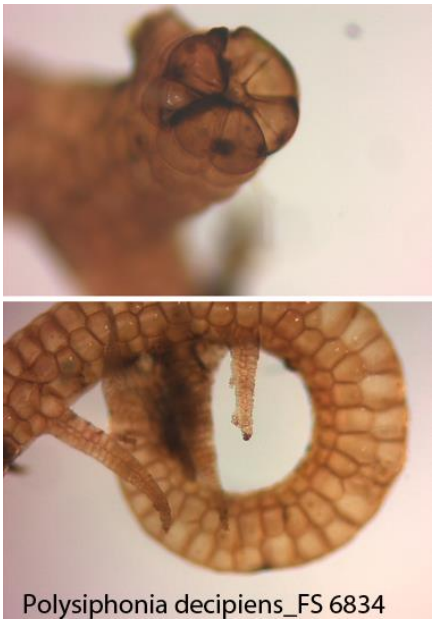

Plocamium patagiatum_FS 6896


Plocamium patagitum


Polysiphonia brodeii_FS 6950


Polysiphonia brodeii_FS 695


Polysiphonia decipiens_FS 6834


Polysiphonia decipiens_FS 6834


Polysiphonia subtilissima_FS 6849

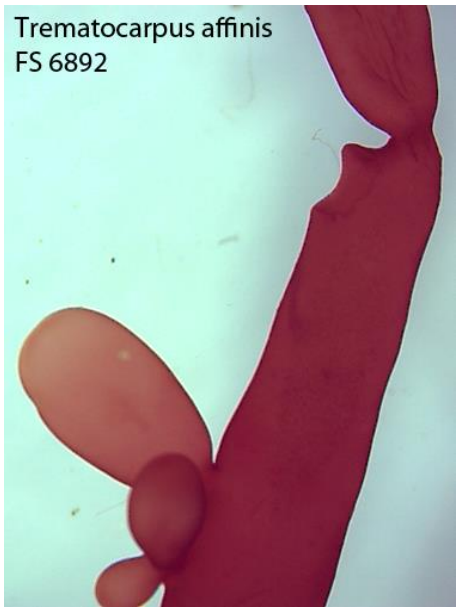

Polysiphonia subtilissima_FS 6849


Ptilocladia vestita_FS 6856


Ptilocladia vestita_FS 6856

Synarthrophyton patena_FS 6891, epiphytic on Cystophora

Trematocarpus affinis_FS 6892

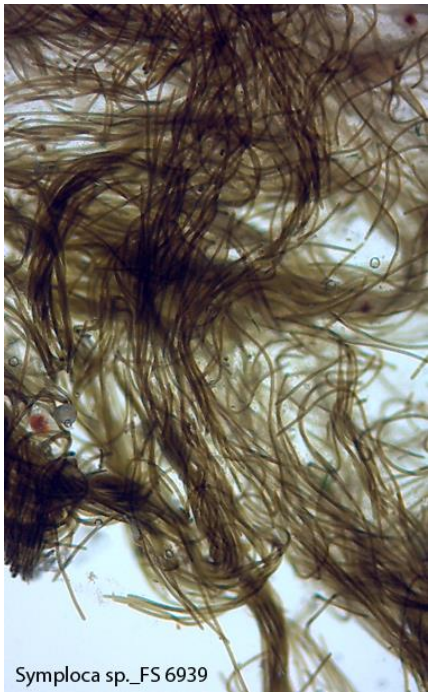



Webervanbossea splachnoides_FS 6864

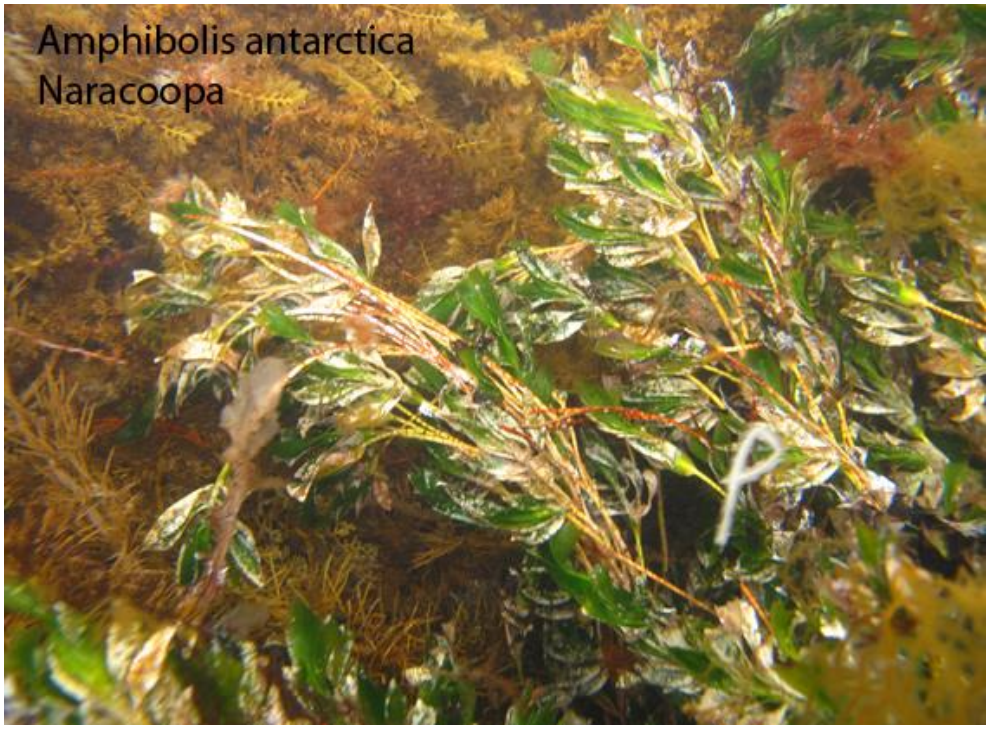

Wollastoniella mucronata_FS 6961


Wollastiniella mucronata_FS 6961

Bluegreen Algae



Seagrasses


Amphibolis antarctica
Naracoopa


Zostera nigricaulis_FS 6922