D. RUSSELL ALAE, DDS
GH BALAZS FILES
1970s - 1990s PART 2 OF 4

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

22 June 1990

Dear George,

I received the information about Hypnea musciformis ok. It will be a great help and I know we will be able to put out a paper together on it, soon. My trip to Halifax, Nova Scotia, for the Aquaculture 90 convention went really well and there were a lot of people from Hawaii attending (John Corbin, Vernon Sato, Barbara Santos, Yara Lamadrid-Rose, a Nehu culturalist, etc.). My poster and paper was on the marine algae introduced to Hawaii, especially the ecology of Acanthophora spicifera. This is rather old information, but they are going to publish it in a book along with other papers presented at the meetings on introduced species. Also, Dr. Walleninus of University of Gothenberg and I will co-author a review of the introduced marine algae of the world. The manuscripts for both of these papers is nearly finished by us and will be ready for reviewers late this year (hopefully).

The third MS, the one you and I are working on, can easily come out of the other two since the literature review and ideas are very similar. Let's plan it this way and see what happens:

1. I will use the efforts of the other two papers to give background and introduction materials for our Hypnea musciformis paper.

2. When I'm in Honolulu in December I will visit herbaria to see what others have gotten on Hypnea.

3. I will survey Maui better for H. musciformis and collect data on biomass, location on the reef and what other algae it is living with.

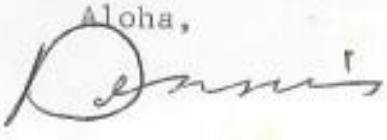
4. You and I will both have to search for it on Hawaii Island, Kauai, Kahoolawe, Niihau (?), Molokini, etc. Maybe Skippy Hau could help us.

5. Write up whatever we have during January-February. I will try to have a rough draft to you in March.

6. Re-write and submit MS to Pacific Science or other Journal (?) by June.

Is this reasonable to you? Thank you, again for the information, and yes, by all means, let's co-author this paper. You especially have a lot to add concerning Hypnea as a turtle food source and the tumor problem connection to the Carribean might develop as well. We should keep this project of ours under our hats at least until the MS is finished.

Aloha,



LIST OF LOCATIONS OF HYPNEA MUSCIFORMIS FROM BALAZS SAMPLES
8 Jun 1990

GB-29 Location: Kaneohe Bay, Oahu Date: 28 Oct 77
(Turtle SL= 60cm, dead)

GB-533 Location: Bellows, Oahu Date: 5 Sep 79
(rocky groin, not from a turtle)

GB-601 Location: Bellows, Oahu Date: 4 Jan 80
(algae tangled on leadline of net, not from a turtle)

GB-755 Location: Bellows, Oahu Date: 13 May 80
(algae tangled in net, not from a turtle)

GB-757 Location: Bellows, Oahu Date: 14 May 80
(algae tangled in net, not from a turtle)

GB-758 Location: Bellows, Oahu Date: 15 May 80
(algae tangled in net, not from a turtle)

GB-1041 Location: Lilipuna, Kaneohe Bay Date: 16 Jul 80
(Dead turtle, with tumors)

GB-1042 Location: Lilipuna, Kaneohe Bay Date: 16 Jul 80
(Dead turtle)

Location: Kawela Bay, Oahu Date: 28 Mar 85
(Dead turtle stomach contents, SL= 55.5cm)

Location: Punaluu, Oahu Date: 19 Mar 85
(Shoreline wash-ups, not from a turtle, Kawailoa)

Location: Kuliouou, (Niu Valley) Date: 4 Apr 85
(Shoreline wash-ups, not from a turtle, Oahu)

Location: Kahului Harbor, Maui Date: 5 May 85
(Rocky shore, not from a turtle)

Location: Kahaluu, Kaneohe Bay Date: 3 Jun 85
(Dead turtle, with tumors, stomach contents, SL= 53.0cm)

GB-8464* Location: Kahului Harbor, Maui Date: 17 Jun 85
(Live turtle stomach flush, SL= 86.2cm)

Location: Kaneohe Bay, Oahu Date: 14 Aug 85
(Dead turtle with tumors, stomach sample, SL= 69.5cm)

Location: Airport Lagoon Drive Date: 13 Jul 85
(Dead turtle with tumors, stomach sample, SL= 89.8, Oahu)

* Can be cited as: Balazs, G. H., R. G. Forsyth and A. K. H. Kam. 1987. Preliminary assessment of habitat utilization by Hawaiian Green Turtles in their resident foraging pastures. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFC-71, 107pp.

Same for samples GB-8464, 8514, 8516

GB-8514 Location: Kuahua, Lanai Date: 14 Jul 85
(Shipwreck Beach, turtle mouth sample)

GB-8516 Location: Kuahua, Lanai Date: 16 Jul 85
(Shipwreck Beach, turtle mouth sample)

Location: Haleiwa Harbor, Oahu Date: 26 Mar 86
(Just off the harbor, CL= 73.5cm, stomach contents, with tumors)

Location: Sand Island, Oahu Date: -- Mar 86
(Dead turtle, stomach sample, 38.6cm)

Location: Kahaluu, Oahu Date: 27 Jun 86
(Dead turtle, SL= 85.0, stomach sample, Kaneohe Bay)

Location: Kaneohe Bay, Oahu Date: 19 Jun 86
(Dead Turtle, with tumors, stomach sample, SL= 67.2)

Location: Kaneohe Bay, Oahu Date: 22 Jun 85
(Dead Turtle, with tumors, stomach sample, SL= 58.9cm, Kahaluu)

Location: Kaneohe Bay, Oahu Date: 13 Sep 86
(Dead turtle, with tumors, stomach sample, SL= 68cm)

Location: Kailua Bay, Oahu Date: 12 Jan 87
(Dead turtle, with tumors, stomach sample, SL= 67.2cm)

Location: Kaneohe Bay, Oahu Date: 27 Jan 87
(Dead turtle, stomach sample, SL= 37.8cm)

Tag 3448 Location: Kaneohe Bay, Oahu Date: 11 Mar 87
(Drowned from entanglement, stomach sample, SL= 89.2cm)

Location: Mokuleia, Oahu Date: 5 Sep 87
(Dead turtle stomach contents, SL= 37.6cm)

Location: Kualoa Beach, Oahu Date: 17 Aug 87
(Dead turtle, withy tumors, stomach contents, SL= 61.2cm)

Location: Mauanalua Bay (Hawaii Kai) 2 Jun 87
(Dead turtle, with tumors, stomach content, SL= 72.6cm, Oahu)

#9874 Location: Palaau, Molokai Date: 13 Jul 88
(Dead turtle, stomach sample, SL= 56.0cm)

Location: Kahala Beach, Oahu Date: 21 Feb 88
(Dead turtle, with tumors, stomach contents, SL= 87.4cm)

Location: Kahuku, Oahu Date: 18 Sep 88
(Dead turtle, with tumors, stomach sample, C= 91.5cm)

Location: Kailua Bay, Oahu Date: 27 Apr 89
(Dead turtle, stomach sample, SL= 41.0cm)

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1 OF 1	9246	OM	11/19/86	2	40-JJNF-7-071	

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9. SHIP TO: (Consignee and Destination)
National Marine Fisheries Service
2570 Dole St.
Honolulu, HI 96822-2396

10. 1099 TAX [ ]

11. EMPLOYER IDENTIFICATION NUMBER (EIN)

12. LINE ITEM	13. ACTION CODE	14. DESCRIPTION	15. BUDGET OBJECT	16. ACC LINE	17. QUANTITY	18. UNIT ISSUE	19. UNIT PRICE	20. AMOUNT
01		Taxonomic identification of Algae specimens sampled from the stomach and external surfaces of Hawaiian Sea Turtles	2513	01	25	samp.	14.00	350 00

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Science Center Honolulu Laboratory
2570 Dole St. • Honolulu, Hawaii 96822-2396

9 Algae samples submitted to Dennis Russell on MARCH 4, 1991 by George Balazs.

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

SAMPLE ID.	LOCATION	DESCRIPTION
2-6-91 N649	PUAKO, BIG IS.	STOMACH FLUSH OF LIVE TURTLE.
2-6-91 N655	PUAKO, BIG IS.	STOMACH FLUSH OF LIVE TURTLE.
2-6-91 N672	PUAKO, BIG IS.	STOMACH FLUSH OF LIVE TURTLE.
2-28-91 Z76	KANEOHE BAY (MARK REEF)	STOMACH FLUSH OF LIVE TURTLE.
2-28-91 N679	KANEOHE BAY (MARK REEF)	STOMACH FLUSH OF LIVE TURTLE.
11-14-90	KAILUA BAY (SHERIFF LIPTON)	STOMACH SAMPLE FROM NECROPSY.
12-17-90 Z227(A)	WAIKIKI BEACH	1ST STOMACH FROM NECROPSY.
12-17-90 Z227 (B)	WAIKIKI BEACH	2ND STOMACH FROM NECROPSY.
3-1-91 N691	WAIKIKI SHERATON	STOMACH FLUSH OF LIVE TURTLE.

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Southwest Fisheries Science Center Honolulu Laboratory
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Algae samples submitted to Dennis Russell on
January 22, 1991 **by George Balazs.**

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

SAMPLE ID.	LOCATION	DESCRIPTION
① 12-21-90 JERRY RAY Y313, Y314, Z220	NEAR Coconut Island	Stomach Sample
② 1-13-91 DR. BARGITER VIA Gene Witham	Kailua	Stomach Sample
③ 1-3-91 Skippy Hau HUMANE SOCIETY	Maui	stomach Samp.
④ 1-12-91 Jeff Preble	Kaneohe Bay	Stomach Samp.

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Algae samples submitted to Dennis Russell on January 7, 1991 **by George Balazs.**

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

SAMPLE ID.	LOCATION	DESCRIPTION
① 12/25/90 Honoschak	Sand Island	stomach samp.
② 12/20/90 Gaeta	Hecia Kea Pier	stomach Samp.
③ 11/12/90 Mary Alice Evans	WAIMANALO BEACH	stomach samp.
④ 12-9-90 Eismer	Kewala Bay	stomach Samp.
⑤ 1-2-91	Kaneohe Bay "MARK REEF"	Fecal samp. - Medium size -

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Algae samples submitted to Dennis Russell on
12-31-90 by George Balazs.

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

	SAMPLE ID.	LOCATION	DESCRIPTION
(1)	12-20-90 "N 573"	waiKiKi	"STOMach Flush" (Hand Capture)
(2)	Robinson 12-4-90	Haleiwa	"stomach sample"
(3)	12-10-90	Kawela Bay	Selected particles from feces

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Algae samples submitted to Dennis Russell on
11 December 1990 by George Balazs.

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

	SAMPLE ID.	LOCATION	DESCRIPTION
1)	"Large" 12-10-90(1)	Kawela Bay	Turtle fecal pellet
2)	"Large" 12-10-90(2)	Kawela Bay	"
3)	"Med." 12-10-90(3)	" "	"
4)	"Med." 12-10-90(4)	" "	"
5)	"Small" 12-10-90(5)	" "	"
6)	"Small" 12-10-90(6)	" "	"

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Southwest Fisheries Science Center Honolulu Laboratory
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Algae samples submitted to Dennis Russell on
November 2, 1990 **by George Balazs.**

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

SAMPLE ID.	LOCATION	DESCRIPTION
1) 10-30-90	Hecia Kea Channel, OAHU	Kalani Pavo
2) 10-24-90	NIU, OAHU	Rayma + Peter Lee

10-24-90 LEE "stomach" Balazs

Acanthophora spicifera	98%
Amansia glomerata	1
Hypnea cervicornis	1
Dictyota acuteloba	Trace
Gelidium sp.	Trace
Halimeda discoidea	Trace
Laurencia sp.	Trace

10-30-90 PAVO "stomach" Balazs

Hypnea musciformis	90%
Acanthophora spicifera	5
Dictyosphaeria versluysii	1
Gelidium crinale	1
Gracilaria sp.	1
Laurencia nidifica	1
Sargassum echinocarpum	1
Dictyota acuteloba	Trace
Lyngbya majuscula	Trace
Bryozoan on algae	Trace

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Southwest Fisheries Science Center Honolulu Laboratory
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6 Algae samples submitted to Dennis Russell on
10-2-90 by George Balazs.

NMFS, Honolulu
2570 Dole Street
Honolulu, Hawaii 96822-2396

SAMPLE ID.	LOCATION	DESCRIPTION
09-24-90	Peggy Hubacker; Laenani Beach Park.	Stomach sample
09-27-90	Hiriam Fong	Stomach sample
09-20-90	Ian Harrington	Stomach sample
09-06-90	Dr. Ernest Reese; Waikane	Stomach sample
09-02-90	DOCARE; Agent 311 (Ino)	Stomach sample
09-03-90	Bill Puleloa; DAR, Molokai	Stomach sample

10 samples Sent 9/4/90

Sample ID.	LOCATION	DESCRIPTION
8-18-90	N. KANEOHE BAY	MR (officer) ERNEST CARVAHLO OLD TAGS (Y269, Y270)
7-23-90	LANIKAI BEACH (100 yds off shore)	LANIKAI CANOE CLUB (Report findings to Keene Rees Sea Life Park)
8-20-90	Kailua Beach (near castle point)	Gloria Hariharan 83 Kailuana place
8-89	Kaneohe Bay	Dave BUKO HIMB CI (small box)
Fishing line entangled	FROM Midway IS VIA Kaneohe Bay FWS Ken McDermond	~~HIMB freezer~~ needles (Iron wound (RFL severe NAMO entangle)
8-4-90 (2000 - 0600)	Kailua Beach Park	Tommy Friel (caught in NET)
8-29-90	Laie, Oahu	Cathy Arrandale (entangled off shore 75 yds
7-16-90	WAILUA, Oahu	Brandley Itana (GILL NET ENTANGLEMENT) - Fresh

OVER →

I.D	LOCATION	DESCRIPTION
7-6-90	Kewalo Bay, Oahu	Sullivan
7-12-90	Kaneohe Bay	HIMB SPEBE STUDENT (FENNY COX)

I.D	LOCATION	DESCRIPTION
7-6-90	Kewalo Bay, Oahu	Sullivan
7-12-90	Kaneohe Bay	HIMB SPEBE STUDENT (FENNY COX)

George Balazs
NOAA National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC2
2570 Dole Street
Honolulu, HI 96822-2396

15 February 1991

Dear George,

This completes all of the 1990 samples I have received, plus one from 1991. This means all of the credit has been used and you are now one sample in debt. I have ten more samples to process and will send the results to you soon. It really doesn't take a lot of extra time to do trace species and I would like to continue because it assures I have looked carefully at the entire sample and gives a good idea of the variety the turtles are sampling. I have, however, stopped identifying really little things like diatoms, blue-green algae when in tiny amounts and some of the tiny epiphytic filamentous reds. You may, someday, figure out some type of species diversity related to diet or what was taken into the animals. Thank you for being concerned about my over-doing it.

Algae Identifications

1-3-91 Leatherback, Midway Island.

Connective tissue
Squamous epithelial cells (loose)
Sand grains
No plant material in sample
No fish scales or recognizable animal organs (bones, skin, etc.)

HIMB Freezer stomach sample, Kaneohe Bay RFL Mono entangle
No date

Spyridia filamentosa	90%
Casurina equisetifolia (terrestrial foliage)	10%

Part of a bird feather
Shell fragment

8-89 Dave GWKO CF, Kaneohe Bay, Stomach sample

Gelidium sp.	50%
Gracilaria coronocopifolia	40
Acanthophora spicifera	10
Hypnea spinella	Trace

Small fecal pellet #1, Kawela Bay.

Codium arabicum	50%
Amansia glomerata	30
Codium edule	20
Padina sp.	Trace
Ulva sp.	Trace

Small fecal pellet #2, Kawela Bay.

Codium edule	95%
Amansia glomerata	5
Casurina equisetifolia	Trace
Ectocarpus sp.	Trace

Medium fecal pellet #1, Kawela Bay

Codium edule	90%
Amansia glomerata	10
Dictyosphaeria sp.	Trace
Griffithsia sp.	Trace
Sphacelaria sp.	Trace
Casurina equisetifolia	Trace

Medium fecal pellet #2, Kawela Bay

Codium edule	90%
Amansia glomerata	10
Sphacelaria sp.	Trace

Large fecal pellet #1, Kawela Bay

Codium edule	90%
Amansia glomerata	10
Gelidium sp.	Trace

Large fecal pellet #2, Kawela Bay

Codium edule	70%
Amansia glomerata	30
Cladophoropsis sp.	Trace

6-29-90 Club Lanai, Halepalaoa

Spyridia filamentosa	70%
Laurencia nidifica	30
Sand	

7-6-90 Kewala Bay (Sullivan) Stomach sample

Pterocladia capillacea	50%
Codium edule	20
Codium arabicum	10
Laurencia sp.	10
Acanthophora spicifera	5
Amansia glomerata	5
Dictyosphaeria versluysii	Trace
Valonia aegagropila	Trace

12 July 1990 Fenny Cox, stomach sample, SPEBE Student, HIMB?

Black colonial ascidian	50%
Codium arabicum	20
Codium edule	20
Dictyosphaeria cavernosa	5
Gelidium pusillum	5

7-16-90 Wailua, Bradley Hara, stomach sample

Codium arabicum	40%
Codium edule	40
Amansia glomerata	20
Cladophoropsis luxuriens	Trace
Microdictyon japonicum	Trace
Turbinaria ornata	Trace
Ceramium sp.	Trace
Gelidium sp. (?)	Trace

One hollow cone-shaped spine 

7-23-90 Lanikai, stomach sample

Codium phasmaticum	40
Dictyosphaeria cavernosa	20
Codium edule	10
Turbinaria ornata	10
Actinotrichia rigida	Trace
Jania capillacea	Trace
Lyngbya majuscula	Trace
Sphacelaria sp.	Trace
Spyridia filamentosa	Trace
Tolypiocladia calodictyon	Trace

8-3-90 N490

Hypnea musciformis	90%
Codium sp.	10
Acanthophora spicifera	Trace
Ceramium sp.	Trace
Champia parvula	Trace
Dictyosphaeria cavernosa	Trace
Laurencia nidifica	Trace
Sargassum sp.	Trace
Sphacelaria sp.	Trace

1 foraminifera shell
1 amphipod
Sand

8-3-90 N491

Codium sp.	50%
Hypnea musciformis	50

8-4-90 Kailua Beach Park, Midnight - 6am, stomach sample, fisherman's net

Hypnea musciformis	80%
Codium sp.	10
Dictyota acuteloba	10
Acanthophora spicifera	Trace
Cladophora fascicularis	Trace
Corallina sandvicensis	Trace
Halimeda discoidea	Trace
Padina japonica	Trace

Bryozoans (small)

8-18-90 N. Kaneohe Bay Y269 Y270, stomach sample

Halophila ovalis	90%
Black colonial ascidians	10

8-20-90 Kailua Beach near Castle Point, stomach sample

Acanthophora spicifera	75%
Dictyosphaeria cavernosa	10
Dictyota acuteloba	10
Sargassum echinocarpum	5
Halimeda discoidea	Trace
Hypnea cervicornis	Trace
Hypnea musciformis	Trace
Laurencia nidifica	Trace
Lyngbya majuscula	Trace
Padina japonica	Trace
Sphacelaria sp.	Trace

8-24-90 Mark's Reef #1

Sargassum obtussifolium	70%
Codium edule	20
Amansia glomerata	10
Dictyosphaeria versluysii	Trace
Sphacelaria sp.	Trace

8-24-90 Mark's Reef #2

Sargassum obtussifolium	70%
Amansia glomerata	10
Dictyosphaeria versluysii	Trace
Lyngbya majuscula	Trace
Sphacelaria sp.	Trace

8-29-90 Laie, entangled on shore, stomach sample

Codium arabicum	40%
Codium edule	20
Halymenia formosa	15
Chondrococcus hornemanni	10
Codium phasmaticum	10
Alsidium sp.	4
Halophila ovalis	1
Amansia glomerata	Trace
Ceramium sp.	Trace
Corallina sp.	Trace
Dictyosphaeria versluysii	Trace
Halimeda discoidea	Trace
Laurencia sp.	Trace
Lyngbya majuscula	Trace
Microdictyon japonicum	Trace
Polysiphonia howei	Trace
Sphacelaria tribuloides	Trace
Spyridia filamentosa	Trace

11-12-90 Mary Alice, stomach sample

Amansia glomerata	90%
Turbinaria ornata	5
Cladophoropsis luxurians	3
Sargassum obtussifolium	2
Jania sp.	Trace
Valonia aegagropila	Trace

11-13-90 Buckmaster, stomach

Hypnea musciformis	85%
Acanthophora spicifera	5
Laurencia nidifica	5
Halophila ovalis	1
Laurencia sp.	Trace

One lump of yellow sponge

SUMMARY
(15 February 1991)

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Actinotrichia rigida (Lamx.) Decaisne
Alsidium sp.
Amansia glomerata C. Ag.
Ceramium sp.
Champia parvula (C. Ag.) Harvey
Chondrococcus hornemanni (Mert.) Schmitz
Corallina sandvicensis Lemm.
Gelidium pusillum (Stackhouse) LaJolis
Gelidium sp.
Gracilaria coronopifolia J. Ag.
Griffithsia sp.
Halymenia formosa Harvey

Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea spinella (J. Ag.) Kutzing
Jania capillacea Harvey
Jania sp.
Laurencia nidifica J. Ag.
Laurencia sp.
Polysiphonia howei Hollenberg
Pterocladia capillacea (Gmelin) Bornet
Spyridia filamentosa (Wulfen) Harvey
Tolypiocladia calodictyon (Harv.) Silva

PHAEOPHYTA

Dictyota acuteloba J. Ag.
Ectocarpus sp.
Padina japonica Yamada
Padina sp.
Sargassum echinocarpum J. Ag.
Sargassum obtussifolium J. Ag.
Sargassum sp.
Sphacelaria sp.
Spacelaria tribuloides Meneghini
Turbinaria ornata (Turn.) J. Ag.

CHLOROPHYTA

Cladophora fascicularis (Mertens) Kutzing
Cladophoropsis luxurians Gilbert
Cladophoropsis sp.
Codium arabicum Kutzing
Codium edule Silva
Codium phasmaticum Setchell
Codium sp.
Dictyosphaeria cavernosa (Forsskal) Boerg.
Dictyosphaeria sp.
Dictyosphaeria versluysii Weber Van Bosse
Halimeda discoidea Decaisne
Microdictyon japonicum Setchell
Ulva sp.
Valonia aegagropila C. Ag.

SEAGRASS

Halophila ovalis (R. Br.) Hook

CYANOPHYTA

Lyngbya majuscula Gomont

TERRESTRIAL PLANTS

Casurina equisetifolia L.

George Balazs
NOAA National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC2
2570 Dole Street
Honolulu, HI 96822-2396

4 February 1991

Algae Identifications

6-15-89 Pyramid Beach, stomach sample, dead green turtle

Pterocladia capillacea	50%
Amansia glomerata	30
Alsidium sp.	10
Ahnfeltia concinna	5
Codium edule	5
Acanthophora spicifera	Trace
Actinotrichia fragilis	Trace
Dictyopteris sp.	Trace
Endarachne binghamiae	Trace
Laurencia nidifica	Trace
Microdictyon japonicum	Trace
Udotea abbreviata	Trace
Valonia aegagropila	Trace

2-7-90 Waimanalo

Codium edule	65%
Pterocladia capillacea	20
Amansia glomerata	5
Lyngya majuscula	5
Codium arabicum	3
Sargassum echinocarpum	2
Acanthophora spicifera	Trace
Microdictyon japonicum	Trace
Rosenvingia orientalis	Trace
Valonia aegagropila	Trace

5-16-90

Codium edule	45
Codium arabicum	30
Acanthophora spicifera	10
Pterocladia capillacea	10
Amansia glomerata	5
Cladophoropsis luxuriens	Trace
Dictyosphaeria versluysii	Trace
Microdictyon japonicum	Trace
Sargassum echinocarpum	Trace
Sphacelaria sp.	Trace

5-30-90 A stomach

Amansia glomerata	50%
Pterocladia capillacea	25
Codium edule	10
Ulva fasciata	10
Turbinaria ornata	5
Cladophoropsis luxuriens	Trace
Laurencia mariannensis	Trace
Microdictyon japonicum	Trace
Polysiphonia howeii	Trace

5-30-90 B (badly decomposed sample)

Acanthophora spicifera	30%
Pterocladia capillacea	30
Hypnea sp.	10
Spyridia filamentosa	10
Amansia glomerata	Trace
Halimeda discoidea	Trace
Laurencia sp.	Trace
Polysiphonia sp.	Trace
Ulva sp.	Trace

6-4-90 stomach

Acanthophora spicifera	90%
Codium edule	5
Laurencia nidifica	5
Pterocladia capillacea	Trace

6-10-90 Rick McCall

Pterocladia capillacea
Bulk of material is black colonial ascidians
Orange sponge

6-25-90

Acanthophora spicifera	45%
Amansia glomerata	40
Cladophoropsis luxuriens	5
Ulva fasciata	5
Valonia aegagropila	5
Hypnea cervicornis	Trace
Microdictyon japonicum	Trace
Pterocladia sp.	Trace

7-8-90 Chun's Reef, stomach contents

Hypnea musciformis	75%
Acanthophora spicifera	25
Cladophoropsis sp	Trace
Gelidiopsis variabile	Trace
Gelidium sp.	Trace
Laurencia nidifica	Trace
Lyngbya majuscula	Trace

3 mussels

4-17-90

Hypnea musciformis	90%
Codium edule	5
Codium arabicum	5
Dictyota acuteloba	Trace
Halimeda discoidea	Trace
Laurencia nidifica	Trace
Lyngbya majuscula	Trace
Terrestrial grass	Trace
one mussel	

7-10-90 PaLaau stomach CRUSH MORTALITY

Amansia glomerata	60%
Liagora sp.	20
Halophila ovalis	10
Actinotrichia fragilis	5
Rhodymenia sp. (?)	5

12-~~4-90~~ 4-84 Haleiwa, stomach sample, Robinson (Balazs)

Hypnea musciformis	30%
Ulva fasciata	30
Amansia glomerata	10
Cladophora fascicularis	10
Sargassum echinocarpum	10
Acanthophora spicifera	Trace
Cladophoropsis luxuriens	Trace
Leviellia jungermannioides	Trace
Sphacelaria sp.	Trace
Terrestrial grass, leaves, Casurina twigs	10%
Terrestrial moss	Trace

12-12-~~90~~ 89 Wailupe - Wheeler

Acanthophora spicifera	90%
Sargassum echinocarpum	7
Codium arabicum	1
Codium edule	1
Laurencia sp.	1
Cladophoropsis sp.	Trace
Gracilaria sp.	Trace
Zonaria sp.	Trace

SUMMARY

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Actinotrichia rigida (Lamx.) Decaisne
Ahnfeltia concinna J. Ag.
Alsidium sp.
Amansia glomerata C. Ag.
Gelidiopsis variabile J. Ag.
Gelidium sp.

Gracilaria sp.
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea sp.
Laurencia mariannensis Yamada
Laurencia nidifica J. Ag.
Laurencia sp.
Leviellia jungermannioides Harv.
Polysiphonia howei Hollenberg
Polysiphonia sp.
Pterocladia capillacea (Gmelin) Bornet
Pterocladia sp.
Rhodymenia sp. (?)
Spyridia filamentosa (Wulfen) Harvey

PHAEOPHYTA

Dictyota acuteloba J. Ag.
Dictyopteris sp.
Endarachne binghamiae J. Ag.
Rosenvingea orientalis (J. Ag.) Howe
Sargassum echinocarpum J. Ag.
Sphacelaria sp.
Turbinaria ornata (Turn.) J. Ag.
Zonaria sp.

CHLOROPHYTA

Cladophora fascicularis (Mertens) Kutzing
Cladophoropsis luxurians Gilbert
Cladophoropsis sp.
Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria versluysii Weber Van Bosse
Halimeda discoidea Decaisne
Microdictyon japonicum Setchell
Udotea abbreviata Gilbert
Ulva fasciata Delile
Ulva sp.
Valonia aegagropila C. Ag.

SEAGRASS

Halophila ovalis (R. Br.) Hook

CYANOPHYTA

Lyngbya majuscula Gomont

George Balazs
NOAA National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC2
2570 Dole Street
Honolulu, HI 96822-2396

28 January 1991

Algae Identifications

7-2-89 Stomach

Gelidiella acerosa	99%
Amansia glomerata	1
Ceramium sp.	Trace
Codium edule	Trace
Microdictyon sp.	Trace
Polysiphonia howei	Trace
Sargassum sp.	Trace

9-27-89 ~~Haleiwa~~ Laniakea

Pterocladia capillacea	99%
Diatoms	Trace
Barnacle	one
Sand	Trace

10-8-89 Kaneohe, Turtle stomach contents

Hypnea musciformis	99%
Codium arabicum	1
Dictyota acuteloba	1
Sargassum echinocarpum	1
Laurencia nidifica	Trace
Leviellia jungermannioides	Trace

11-1-89

Amansia glomerata	50%
Galaxaura fasciculata	50
Hypnea musciformis	2
Pterocladia capillacea	1
Centroceros clavulatum	Trace

One plastic artificial Christmas tree needles section

22 Nov 89 I.A. Kailua #1

Sargassum echinocarpum	70%
Codium edule	25
Dictyopteris sp.	5
Bryopsis sp.	Trace

22 Nov 89 I.A. Kailua #2

Amansia glomerata	90%
Codium edule	8
Dictyosphaeria versluysii	2
Halimeda discoidea	Trace
Sargassum echinocarpum	Trace

22 Nov 89 I.A. Kailua #3

Amansia glomerata	90%
Codium edule	10
Dictyosphaeria cavernosa	Trace
Halophila ovalis	Trace

22 Nov 89 I.A. Kailua #4

Amansia glomerata	80%
Codium edule	20
Chondrococcus hornemanni	Trace
Dictyosphaeria versluysii	Trace
Halimeda discoidea	Trace
Siphonocladus tropicus	Trace

22 Nov 89 I.A. Kailua #5

Amansia glomerata	98%
Siphonocladus tropicus	1
Codium edule	1

22 Nov 89 I.A. Kailua #6

Codium edule	80%
Siphonocladus tropicus	15
Amansia glomerata	5
Sphacelaria sp.	Trace

22 Nov 89 I.A. Kailua #7

Amansia glomerata	90%
Codium edule	10
Codium arabicum	Trace
Scinaia sp.	Trace
Siphonocladus tropicus	Trace
Terrestrial grass	Trace

Sponge (3 lumps, 1 cm^2)
White granular protein(?) conglomerate lumps

11-29-89 Turtle stomach contents

Codium arabicum	40%
Codium phasmaticum	35
Gelidiella acerosa	10
Pterocladia capillacea	9
Codium edule	5
Dictyosphaeria versluysii	1
Actinotrichia rigida	Trace
Amansia glomerata	Trace
Cladophoropsis sp.	Trace
Dictyota friabilis	Trace
Gelidium sp.	Trace
Griffithsia sp.	Trace
Sargassum polyphyllum	Trace
Siphonocladus tropicus	Trace

12-15-89 LUM

Hypnea cervicornis	75%
Acanthophora spicifera	25
Codium arabicum	Trace
Dictyota acuteloba	Trace

10-30-90 PAVO "stomach" Balazs

Hypnea musciformis	90%
Acanthophora spicifera	5
Dictyosphaeria versluysii	1
Gelidium crinale	1
Gracilaria sp.	1
Laurencia nidifica	1
Sargassum echinocarpum	1
Dictyota acuteloba	Trace
Lyngbya majuscula	Trace
Bryozoan on algae	Trace

10-24-90 LEE "stomach" Balazs

Acanthophora spicifera	98%
Amansia glomerata	1
Hypnea cervicornis	1
Dictyota acuteloba	Trace
Gelidium sp.	Trace
Halimeda discoidea	Trace
Laurencia sp.	Trace

SUMMARY

Rhodophyta

Acanthophora spicifera (Vahl) Boerg.
Actinotrichia rigida (Lamx.) Decaisne
Amansia glomerata C. Ag.
Centroceros clavulatum (C. Ag.) Montagne
Ceramium sp.
Galaxaura fascticulata Kjellman
Gelidiella acerosa (Forsskal) Feldmann and Hamel
Gelidium crinale (Turner) Lamour.
Gelidium sp.
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Laurencia nidifica J. Ag.
Laurencia sp.
Leviellia jungermannioides Harv.
Polysiphonia howei Hollenberg
Pterocladia capillacea (Gmelin) Bornet
Scinaia sp.

Phaeophyta

Dictyota acuteloba J. Ag.
Dictyota friabilis Setchell
Dictyopteris sp.
Sargassum echinocarpum J. Ag.
Sargassum polyphyllum J. Ag.

Sargassum sp.
Sphacelaria sp.

Chlorophyta

Bryopsis sp.
Codium arabicum Kutzing
Codium edule Silva
Codium phasmaticum Setchell
Dictyosphaeria cavernosa (Forsskal) Boerg.
Dictyosphaeria versluysii Weber Van Bosse
Halimeda discoidea Decaisne
Microdictyon sp.
Siphonocladus tropicus (Crouan) J. Ag.

Seagrass

Halophila ovalis (R. Br.) Hook

Cyanophyta

Lyngbya majuscula Gomont

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

February 19, 1990

Algae Identifications

#7 Kualoa 2-1-90 Small AKU

Codium edule	93%
Sargassum polyphyllum	5
Dictyosphaeria cavernosa	1
Sphacelaria tribuloides	1
Amansia glomerata	Trace
Codium arabicum	Trace
Gelidium sp.	Trace
Scytonema pascheri	Trace
Sphacelaria furcigeria	Trace
Valonia aegagropila	Trace
Terrestrial grass	Trace
Sponge spicules	Trace

#8 Kualoa 2-1-90 Small DKU

Codium edule	99%
Sphacelaria tribuloides	1
Amansia glomerata	Trace
Ectocarpus sp.	Trace
Sargassum polyphyllum	Trace
Scytonema pascheri	Trace
Valonia aegagropila	Trace

#9 Kualoa 2-1-90 Medium EKU

Codium edule	94%
Sphacelaria tribuloides	1
Amansia glomerata	2
Dictyosphaeria cavernosa	3
Gelidium sp.	Trace
Laurencia nidifica	Trace

#10 Kualoa 2-1-90 Medium CKU

Codium edule	90%
Sargassum polyphyllum	2
Dictyosphaeria cavernosa	3
Amansia glomerata	5
Valonia aegagropila	Trace
Rhodophyta sp. (?)	Trace

#11 Kualoa 2-1-90 Large CKU

Codium edule	90%
Sargassum polyphyllum	5
Amansia glomerata	4
Valonia aegagropila	1
Sphacelaria tribuloides	Trace
Terrestrial grass	Trace

#12 Kualoa 2-1-90 Large EKU

Amansia glomerata	80%
Codium edule	10
Terrestrial leaves	7
Sphacelaria tribuloides	3

*The algae in samples #7-12 were highly digested, so some scraps could not be identified to species.

#1 Kawela Bay 12-13-89 Large A

Amansia glomerata	90%
Codium edule	5
Casurina equisetifolia (terrestrial)	5

#2 Kawela Bay 12-13-89 Large B

Amansia glomerata	85%
Codium edule	5
Casurina equisetifolia (terrestrial)	5
Terrestrial plant material	5

#3 Kawela Bay 12-13-89 Medium C

Amansia glomerata	70%
Casurina equisetifolia (terrestrial)	20
Gelidium sp.	1
Terrestrial plant leaves	1

#4 Kawela Bay 12-13-89 Medium D

Amansia glomerata	95%
Casurina equisetifolia (terrestrial)	3
Pterocladia sp.	2
Codium edule	Trace

#5 Kawela Bay 12-13-89 Small B

Amansia glomerata	94%
Pterocladia sp.	5
Casurina equisetifolia (terrestrial)	1
Codium edule	1

#6 Kawela Bay 12-13-89 Small E

Codium edule	85%
Amansia glomerata	5
Pterocladia sp.	1
Dictyosphaeria sp.	Trace
Gelidium sp.	Trace
Sphacelaria furcigeria	Trace
Terrestrial grass	Trace

SUMMARY

RHODOPHORA

Amansia glomerata C. Ag.
Gelidium sp.
Laurencia nidifica J. Ag.
Pterocladia sp.

CHLOROPHYTA

Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria cavernosa (Forsskal) Boerg.
Dictyosphaeria sp.
Valonia aegagropila C. Ag.

PHAEOPHYTA

Sargassum polyphyllum J. Ag.
Sphacelaria furcigeria Kutzing
Sphacelaria tribuloides Meneghini

CYANOPHYTA

Scytonema pascheri Bharadwaja

TERRESTRIAL PLANTS

Casurina equisetifolia L.

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

February 19, 1990

Dear George,

You now have 57 samples to your credit. I still have a few samples to ID and send to you and will do so soon (they are not part of the 57 above). I sent the PO for 50 samples to NOAA on February 6, and assume the check will arrive within a few weeks. I will package the Kualoa and Kawela Bay samples and send them separately from this letter.

Did you read about the sea turtles (about three of them) that have been washing onto the Oregon and Washington beaches lately? Do you want any new clippings on these kinds of happenings?

Also, George, I am getting restless for research and a change of activity. My son is about ready to graduate from SPU in a year or so and I would like to get away from pure teaching and back into research. If you hear of any openings please let me know.

I have been invited to present a paper about alien algae in Halifax, Nova Scotia, in June 1990. Would it be ok with you if I included some of the distribution data on Hypnea musciformis that resulted from your turtle gut identifications? I have all the records in my file, so you would not have to them to me. Any publications you have that mention Hypnea musciformis would also be helpful as supporting references.

Aloha,

Dennis

Dennis J. Russell

School of Natural & Mathematical Sciences

Seattle Pacific University
Seattle, Washington 98119
Phone: (206) 281-2140

George Balazs
Honolulu Laboratory
Southwest Fisheries Center
2570 Dole Street
Honolulu, HI 96822-2396

2 October 1990

Dear George,

All four boxes and two envelopes of samples have arrived safely and are unpacked and ready for ID. I just finished the manuscript from my paper presentation in Halifax, Nova Scotia, and mailed it last week. The deadline was 30 Septmeber.

The library research for that paper will help on the one we are doing on Hypnea musciformis. I will do your samples first, however, before beginning that paper in ernest. Somehow, I would like to get into the UH and Bishop Museum herbariums during the Christmas break, to see the record they show of H. musciformis' spread. Is there any pattern between the spread of the tumors and this alga? That would be an interesting thing to investigate.

I will be in contact with you, via sample results and in person in December.

Aloha,

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

March 26, 1990

Algae Identifications

2-89, Oahu, rinsed feces in 10% formalin

Amansia glomerata	80%
Gelidiella acerosa	10
Pterocladia sp.	10
Much highly digested matter	

3-2-89, Tag 3487-88, rinsed feces of green turtle

Codium arabicum	40%
Amansia glomerata	5
Codium edule	45
Gelidiella acerosa	10

4-27-89, Kailua Bay, Oahu, SL-41.0, Kelce

Hypnea musciformis	70%
Hypnea nidifica	20
Codium arabicum	5
Codium edule	5
Halophila ovalis	1
Bryopsis sp.	Trace
Caulerpa taxifolia	Trace
Laurencia nidifica	Trace
Spyridia filamentosa	Trace

5-4-89, Kiholo Pond (turtle forage), Hawaii

Halophila ovalis

This is a very plastic species. It changes from a nearly oval blade to a very long thin narrow blade. In the past this thin variety of Halophila ovalis, which can be found in Kailua Bay off Kailua Beach Park, was placed into another species and into a variety of H. ovalis. I am leaving it as H. ovalis to avoid confusion. I will keep a portion of the sample to study further, but I am reasonably sure this is the indeed the case.

TAR TURTLE GIBBS BC 3 + MR. Hec's

5-16-89, Kaneohe Bay, Oahu, Tag 2538, Green Turtle stomach flush

* Vanvoorstia spectabilis Harv. 100%

This sample was identified by Dr. Bill Magruder, Bishop Museum. I had not seen this species before and used his help. He was very interested in it since this is only the second time the species has been reported from Hawaii. This very large netted red alga lives in high surge at the edge of the reef. It is related to Martensia, a delicate netted blade that lives in calm bays. Bill would like to know more about where this turtle was captured (exactly) in hope of finding more of this species for the Bishop Museum herbarium collection. I gave him the information as was on the sample jar.

5-16-89, Kaneohe Bay, Oahu, Tag Y170, Green Turtle stomach flush

Halimeda discoidea	30
Jania capillacea	30
Hypnea cervicornis	20
Laurencia nidifica	20
Ceramium sp.	Trace
Gelidium sp.	Trace
Terrestrial grass	Trace
Amphipod	One

SUMMARY

RHODOPHYTA

Amansia glomerata C. Ag.
Ceramium sp.
Gelidiella acerosa (Forsskal) Feldmann and Hamel
Gelidium sp.
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea nidifica J. Ag.
Jania capillacea Harvey
Laurencia nidifica J. Ag.
Pterocladia sp.
Spyridia filamentosa (Wulfen) Harvey
* Vanvoorstia spectabilis Harv.

CHLOROPHYTA

Bryopsis sp.
Caulerpa taxifolia (Vahl) C. Ag.
Codium arabicum Kutzing
Codium edule Silva
Halimeda discoidea Decaisne

SEAGRASS

Halophila ovalis (R. Br.) Hook

* new for our master list.

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

March 26, 1990

Dear George,

You now have 57 samples to your credit. These last few samples were not taken from the 57 as I explained in the last letter. I will package these samples and send them separately from this letter as usual.

Please notice that you found an additional species for your sea turtle menu, Vanvoorstia spectabilis Harv. Bill Magruder, Bishop Museum, identified it for me, since I had never seen it before and thought he would be interested. It is not a new species record for the islands, but is only the second time it has been collected. Bill said he would contact you to find out more so he could possibly go out and collect some fresh material for the museum. Also, see the note on Kiholo Pond. I have collected Halophila ovalis like this in Kailua Bay (very thin long blades) and it is also in the 4-27-89 sample of yours from Kailua Bay, but I will retain a small subsample for further study, to be sure.

Aloha,

Dennis

Dennis J. Russell

Algae Identifications 16 Nov 1990

09-24-90 Peggy Hubacker; Laenani Beach Park, stomach

Hypnea musciformis	70%
Halophila ovalis	20
Sargassum polyphyllum	10
Dictyota acuteloba	Trace
Microdictyon sp.	Trace

09-27-90 Hiriam Fong; stomach

Hypnea musciformis	80%
Sargassum echinocarpum	10
Codium arabicum	5
Codium edule	4
Dictyosphaeria cavernosa	1
Acanthophora spicifera	Trace
Dictyota acuteloba	Trace

09-20-90 Ian Harrington; stomach

Codium arabicum	30%
Amansia glomerata	20
Turbinaria ornata	20
Codium edule	10
Colonial ascidians	10
Dictyota acuteloba	Trace
Gelidium puscillum	Trace
Hypnea musciformis	Trace

09-06-90 Ernest Reese; Waikane, stomach

Hypnea musciformis	50%
Pterocladia capillacea	50
Codium edule	Trace
Dictyosphaeria cavernosa	Trace

09-02-90 DOCARE; Agent 311 (Ino)

Pterocladia capillacea	99%
Codium edule	1
Diatoms	Trace
Gelidium sp.	Trace

09-03-90 Bill Puleloa; DAR, Molokai, stomach

Codium arabicum	60%
Codium edule	30
Pterocladia capillacea	10
Amansia glomerata	Trace
Dasya pedicellata	Trace

At this point you have 51 samples to your credit.

SUMMARY

Rhodophyta

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Dasya pedicellata (C. Ag.) C. Ag.
Gelidium puscillum (Stackhouse) LaJolis
Gelidium sp.
Hypnea musciformis (Wulfen) C. Ag.
Pterocladia capillacea (Gmelin) Bornet

Phaeophyta

Dictyota acuteloba J. Ag.
Sargassum echinocarpum J. Ag.
Sargassum polyphyllum J. Ag.
Turbinaria ornata (Turn.) J. Ag.

Chlorophyta

Codium arabicum Kutzing
Codium edule Silva
Dictyophaeria cavernosa (Forsskal) Boerg.

Higher Plants (Sea grass)

Halophila ovalis (R. Br.) Hook

22 Nov 89 I.A. Kailua #1

Sargassum echinocarpum	70%
Codium edule	25
Dictyopteris sp.	5
Bryopsis sp.	Trace

22 Nov 89 I.A. Kailua #2

Amansia glomerata	90%
Codium edule	8
Dictyosphaeria versluysii	2
Halimeda discoidea	Trace
Sargassum echinocarpum	Trace

22 Nov 89 I.A. Kailua #3

Amansia glomerata	90%
Codium edule	10
Dictyosphaeria cavernosa	Trace
Halophila ovalis	Trace

22 Nov 89 I.A. Kailua #4

Amansia glomerata	80%
Codium edule	20
Chondrococcus hornemanni	Trace
Dictyosphaeria versluysii	Trace
Halimeda discoidea	Trace
Siphonocladus tropicus	Trace

22 Nov 89 I.A. Kailua #5

Amansia glomerata	98%
Siphonocladus tropicus	1
Codium edule	1

22 Nov 89 I.A. Kailua #6

Codium edule	80%
Siphonocladus tropicus	15
Amansia glomerata	5
Sphacelaria sp.	Trace

22 Nov 89 I.A. Kailua #7

Amansia glomerata	90%
Codium edule	10
Codium arabicum	Trace
Scinaia sp.	Trace
Siphonocladus tropicus	Trace
Terrestrial grass	Trace

Sponge (3 lumps, 1 cm^2)
White granular protein(?) conglomerate lumps

School of Natural & Mathematical Sciences

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George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

16 November 1990

Dear George,

I wanted to send the results of all the samples you sent me in one letter, but it has been hard to get to them this quarter. One of our professors quit, you may know him, Ron Phillips, and that has left our department in a bind this year. I was very sorry to see him leave. He was an expert on the sea grasses of the World and published several papers with K. Bridges, UH Botany Department.

I will be coming to Maui this December 13-23, but will not have time to research in Honolulu as I wished. Still, I will be getting as much information on Hypnea, while on Maui as I can for our paper. I can't stay over in Honolulu like I planned because I have to be with the students on their return flight to Seattle. My wife and I will then go to the Western Society of Naturalists meetings in Monterey the following week. You usually don't attend those meetings do you? and then I will return to Honolulu on 27 May to give a paper at the "Introduced Aquatic Organisms in the Pacific Basin" section of the XVII Pacific Science Congress 1991. I have been corresponding with Dr. Doty about this and he is very positive about this topic. I want to have most of our manuscript finished before approaching him for any additional help.

I will continue working on your samples, you now have 51 samples to your credit after the six listed below.

Aloha,

Dennis

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

February 20, 1989

Algae Identifications

Green Turtle, rinsed feces, W. Beach, 2-7-89

Amansia glomerata	65%
Pterocladia capillacea	35
Dictyosphaeria versluysii	Trace
Griffithsia sp.	Trace

Kiholo, Y-6, 10-26-88

Gelidium pusillum	99%
Acanthophora spicifera	Trace
Ceramium sp.	Trace
Hypnea pannosa	Trace
Jania capillacea	Trace
Oscillatoria sp.	Trace
Polysiphonia tenuis	Trace
Tolypiocladia calodictyon	Trace
Foraminifera	Trace

Kiholo, Y-8, 10-26-88

Gelidium pusillum	69%
Acanthophora spicifera	25
Dictyota friabilis	5
Laurencia nidifica	1
Acrochaetium sp.	Trace
Alsidium sp.	Trace
Jania capillacea	Trace
Oscillatoria sp.	Trace
Polysiphonia tenuis	Trace
copepods	

Kiholo, Y-11, 10-26-88

Gelidium pusillum	99%
Alsidium sp.	1
Oscillatoria sp.	Trace
stalked ciliates	

Kiholo, Y-14, 10-26-88

Gelidium pusillum	99%
Acrochaetium sp.	Trace
Ceramium sp.	Trace
Enteromorpha tubulosa	Trace
Jania sp.	Trace
Lyngbya sp.	Trace
Oscillatoria sp.	Trace
Valonia aegagropila	Trace

1 shrimp
amphipods

Kiholo, #3527, 10-26-88

Gelidium pusillum	97%
Alsidium sp.	1
Acanthophora spicifera	1
Dictyota friabilis	1
Acrochaetium sp.	Trace
Ceramium sp.	Trace
Halimeda discoidea	Trace
Lyngbya sp.	Trace

Kiholo, #7768, 10-26-88

Gelidium pusillum	98%
Acanthophora spicifera	1
Alsidium sp.	1
Oscillatoria sp.	Trace

Kiholo, #7789, 10-26-88

Gelidum pusillum	98%
Tolypiocladia calodictyon	1
Terrestrial leaf material	1
Ceramium sp.	Trace
Cladophoropsis sp.	Trace
Jania capillacea	Trace
Oscillatoria sp.	Trace
Polysiphonia sp.	Trace
Sphacelaria tribuloides	Trace
Valonia aegagropila	Trace

Kiholo, #8904, 10-26-88

Gelidium pusillum	98%
Dictyota friabilis	1
Halimeda discoidea	1
Ceramium sp.	Trace
Jania capillacea	Trace
Oscillatoria sp.	Trace

many foraminifera
stalked ciliates

Kona, Hawaii, S-44.8, Bottrell, 5-22-88

Pterocladia capillacea	99%
Caulerpa racemosa	1

Kailua, S-49.9, 9-3-88

Acanthophora spicifera	92%
Codium edule	2
Dictyosphaeria versluysii	2
Gelidium pusillum	2
Dictyota acuteloba	1
Spyridia filamentosa	1

Sunset Beach, stomach, 4-27-88

Gelidium pusillum	95%
Codium edule	4
Amansia glomerata	1

Kewalo, freezer, 46.2, 7-6-88

Codium edule	All

#9874 Green turtle stomach, jars #1,2,3 & 4 combined Palaau, Molokai 7/13/88 NET MORTALITY

Halophila ovalis	85%
Acanthophora spicifera	10
Amansia glomerata	1
Dictyophaeria cavernosa	1
Halimeda discoidea	1
Hypnea cervicornis	1
Hypnea musciformis	1
Ceramium sp.	Trace
Cladophora sp.	Trace
Gelidiopsis variabile	Trace
Hypneocolax stellaris	Trace
Oscillatoria sp.	Trace

SUMMARY

RHODOPHORA

Acanthophora spicifera (Vahl) Boerg.
Acrochaetium sp.
Alsidium sp.
Amansia glomerata C. Ag.
Ceramium sp.
Gelidium pusillum (Stackhouse) LaJolis
Gelidiopsis variabile J. Ag.
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea pannosa J. Ag.
Hypneocolax stellaris J. Ag.
Jania capillacea Harvey
Jania sp.
Laurencia nidifica J. Ag.
Polysiphonia tenuis Hollenberg
Polysiphonia sp.
Pterocladia capillacea (Gmelin) Bornet
Spyridia filamentosa (Wulfen) Harvey
Tolypiocladia calodictyon Silva

CHLOROPHYTA

Cladophora sp.
Cladophoropsis sp.
Codium edule Silva
Dictyosphaeria cavernosa (Forsskal) Boerg.
Dictyosphaeria versluysii Weber van Bosse
Enteromorpha tubulosa Kutzing
Halimeda discoidea Decaisne
Valonia aegagropila C. Ag.

SEAGRASSES

Halophila ovalis (R. Br) Hook

PHAEOPHYTA

Dictyota acuteloba J. Ag.
Dictyota friabilis Setchell
Sphacelaria tribuloides Meneghini

CYANOPHYTA

Lyngbya sp.
Oscillatoria sp.

George,

This completes all of the samples you have sent to me. I will return them as soon as I can get them packed. There were 14 samples (counting the four jars of #9474 as one), so you now have 9 samples to your credit. I sent in a P.O. left over from 1987! As soon as it is processed you will have another 25 samples credit.

My Hawaiian Marine Biology class in December (35 students) almost got flooded out of Camp Pecusa this year. It sure has been wet weather lately in Hawaii, the water was murky and Haleakala had snow and ice down to the 6000 ft level. Everyone still had a great time (Hawaii's worst days are better than Seattles best days, especially in the winter). Sue and I took Skippy Hau out to dinner one evening, a very nice fellow (a wetlands biologist with DLNR). Do you know him?

Aloha,

George Balazs
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

February 26, 1989

Algae Identifications

Mauanalua Bay (Hawaii Kai) 5-2-87, 1st stomach

Hypnea musciformis	75%
Acanthophora spicifera some ?	20
Amansia glomerata	2
Spyridia filamentosa	2
Gracilaria coronopifolia	1

Aina Haina, 9-17-87, S-59.2

Halophila ovalis	60%
Acanthophora spicifera	30
Amansia glomerata	5
Codium arabicum	5
Dictyosphaeria cavernosa	Trace
Gelidium sp.	Trace
Lyngbya majuscula	Trace
Polysiphonia sp.	Trace

Kahala Beach, 2-21-88, S-87.4

Hypnea musciformis	99% (highly fertile)*
Codium edule	1
Acanthophora spicifera	Trace

Lanai, 4-24-88, S-42.0

Codium arabicum	70%
Amansia glomerata	30
Dasya pedicellata	Trace
Polysiphonia sp.	Trace

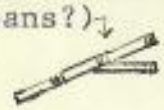
*Most of the H. musciformis thalli were fertile, many tetrasporophytes and cystocarpic (female) plants.

NOSC, Green Turtle Stomach "A" contents, Mike Knott, 8-30-88

Dictyosphaeria cavernosa	40%
Codium edule	30
Codium arabicum	15
Halophila ovalis	10
Spyridia filamentosa	4
Gelidium sp.	1
Amansia glomerata	Trace
Dictyota divaricata	Trace
Lyngbya majuscula	Trace
Microdictyon japonicum	Trace

NOSC, Green Turtle Stomach "B" contents, Glen Sanbor, 8-30-88

Animal material (?)	70%
Jania sp.	15%
Cladophora sp.	10
Sargassum polyphyllum	5
Casurina equisetifolia (terrestrial)	Trace
Animal colonies (hydrazoans?)	
Mytilis edulis shell	
Plastic twine	
Red hair or fur	
White coral sand	



NOSC, Green Turtle Stomach "C" contents, freezer, 8-30-88

Acanthophora spicifera	40%
Codium arabicum	40
Dictyosphaeria cavernosa	5
Halophila ovalis	5
Hypnea pannosa	Trace
Lyngbya majuscula	Trace
Sargassum polyphyllum	Trace

Kahulu, C-91.5, Savini, 9-18-88

Hypnea musciformis	90%
Codium arabicum	5
Acanthophra spicifera	3
Amansia glomerata	1
Sargassum polyphyllum	1
Caulerpa sertularioides	Trace
Spyridia filamentosa	Trace

3-4 white eggs? fly eggs? 1-2mm long, floating on the sample surface.

SUMMARY

RHODOPHORA

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Dasya pedicellata (C. Ag.) C. Ag.
Gelidium sp.
Gracilaria coronopifolia J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea pannosa J. Ag.
Jania sp.
Polysiphonia sp.
Spyridia filamentosa (Wulfen) Harvey

CHLOROPHYTA

Caulerpa sertularioides (Gmelin) Howe
Cladophora sp.
Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria cavernosa (Forsskal) Boerg.
Dictyosphaeria sp.
Microdictyon japonicum Setchell

SEAGRASSES

Halophila ovalis (R. Br) Hook

PHAEOPHYTA

Dictyota divaricata Lamouroux
Sargassum polyphyllum J. Ag.

CYANOPHYTA

Lyngbya majuscula Gomont

TERRESTRIAL PLANTS

Casurina equisetifolia L.

George,

While packing the last samples I noticed these had not yet been worked on (the tapes were still sealed), so now I can safely say this completes all of the samples you have sent to me. I will return them as soon as I can get them packed. There were 8 samples, so you now have 1 sample to your credit. When I receive payment on the 1987 PO, you will have 26 samples credit.

Aloha,

Dennis

George Balazs
Honolulu Laboratory
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

April 13, 1988

Algae Identified from Kiholo Samples

#8701 Kiholo 10/87

Valonia aegagropila	80%
Gelidium pusillum	20
Oscillatoria subtilissima	Trace
Polysiphonia tenuis	Trace

#8702 Kiholo 10/87

Gelidium pusillum	90%
Ulva fasciata	10

#8704 Kiholo 10/88

Gelidium pusillum	100%
Terrestrial plant material	Trace

#8707 Kiholo 10/87

Gelidium pusillum	99%
Jania capillacea	1
Oscillatoria subtilissima	Trace
Ceramium sp.	Trace
Herposiphonia nuda	Trace
Dictyota friabilis	Trace
Black sand	

#8709 Kiholo 10/87

Gelidium pusillum	98%
Dictyota friabilis	1
Sponge	1
Black sand	

#8714 Kiholo 2/88

Bryopsis sp.	40%
Gelidium pusillum	40
Sponge	20
Diatoms	Trace

#8714 Kiholo stomach 2/88

Gelidium pusillum	85%
Laurencia nidifica	10
Dictyota friabilis	5
Herposiphonia nuda	Trace
Oscillatoria subtilissima	Trace
One amphipod	

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Honolulu, HI 96822-2396

#8716 Kiholo 2/11/88

Gelidium pusillum	80%
Sponge	10
Valonia aegagropila	10
Jania capillacea	Trace
Herposiphonia nuda	Trace
Oscillatoria subtilissima	Trace
Terrestrial leaf	Trace

#8720 Kiholo Stomach 2/88

Gelidium pusillum	99%
Dictyota friabilis	1
Diatoms	Trace
Jania capillacea	Trace
Oscillatoria subtilissima	Trace
Sand and shell	
One ant	
One urchin spine?	

#8722 Kiholo Stomach 2/88

Gelidium pusillum	99%
Hypnea sp.	1
Enteromorpha sp.	Trace
Acrochaetium sp.	Trace
Diatoms	Trace
Jania capillacea	Trace
Urospora sp.	Trace
Dictyota friabilis	Trace
Lyngbya sp.	Trace
Oscillatoria subtilissima	Trace
Ceramium sp.	Trace
One amphipod	
One hollow spine	

#8724 Kiholo Stomach 2/88

Gelidium pusillum	99%
Laurencia nidifica	1
Amansia glomerata	Trace
Jania capillacea	Trace
Oscillatoria subtilissima	Trace

#8903 Kiholo Stomach 2/88

Gelidium pusillum	80%
Valonia aegagropila	20
Acanthophora spicifera	Trace
Jania capillacea	Trace
Hypnea sp.	Trace
Oscillatoria subtilissima	Trace

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#8905 Kiholo Stomach 2/88

Gelidium pusillum	99%
Dictyota friabilis	1
Laurencia nidifica	1
Ceramium sp.	Trace
Hypnea sp.	Trace
Oscillatoria subtilissima	Trace
Jania capillacea	Trace

#8909 Kiholo 2/88

Gelidium pusillum	99%
Dictyota friabilis	1
Laurencia sp.	Trace
Oscillatoria subtilissima	Trace
Terrestrial leaf	Trace
Sand	

#8911 Kiholo Stomach 2/88

Gelidium pusillum	99%
Amansia glomerata	1
Dictyota friabilis	Trace
Ectocarpus indicus	Trace
Herposiphonia nuda	Trace
Jania capillacea	Trace
Polysiphonia sp.	Trace
Tolypiocladia calodictyon	Trace
Terrestrial grass	Trace

#1 Anahola, Kauai 10/7/87

Amansia glomerata	100%
Ceramium sp.	Trace
Valonia aegagropila	Trace
Sponge	Trace

#2 Anahola, Kauai 10/7/87

Pterocladia capillacea	80%
Amansia glomerata	20

Frank Parish, Stomach, Kailua 6/11/87

Codium edule	65%
Codium arabicum	20
Amansia glomerata	10
Dictyosphaeria versluysii	5

Stomach, Kaneohe 5/17/87

Acanthophora spicifera	60%
Laurencia nidifica	30
Codium arabicum	5
Codium phasmaticum	5
Halimeda discoidea	1
Spyridia filamentosa	1
Gelidium pusillum	Trace

#S-74.3 Hanauma Bay 10/17/87

Halophila ovalis	50%
Pterocladia capillacea	15
Acanthophora spicifera	20
Amansia glomerata	10
Codium edule	5
Ceramium sp.	Trace

Pupukea Stomach Sample 9/11/87

Pterocladia capillacea	98%
Amansia glomerata	1
Codium edule	1

#1 Mokuleia Entire Forestomach, 10/22/87 (sample discarded)

Acanthophora spicifera	60%
Pterocladia capillacea	30
Amansia glomerata	5
Codium arabicum	5

#2 Mokuleia Stomach, 10/22/87 (sample discarded)

Pterocladia capillacea	60%
Amansia glomerata	10
Gelidiella acerosa	10
Acanthophora spicifera	10
Codium arabicum	5
Gelidiopsis variabile	5
Cladophoropsis luxurians	Trace
Dictyosphaeria versluysii	Trace

#1 Forestomach 5/26/87

Gelidiopsis variabile	40%
Amansia glomerata	30
Codium arabicum	30
Dictyosphaeria versluysii	Trace

#2 Stomach 5/26/87

Pterocladia capillacea	90%
Codium edule	10

Mokuleia Army Beach Stomach Contents, 9/5/87

Acanthophora spicifera	30%
Gelidium sp.	30
Gelidiella acerosa	20
Hypnea musciformis	20
Amansia glomerata	Trace
Bornetella sphaerica	Trace
Codium edule	Trace

Kualoa Beach, Stomach, 8/17/87

Acanthophora spicifera	40%
Hypnea musciformis	40
Caulerpa sertularioides	10
Gracilaria coronopifolia	10

List of Species Identified in These Hawaiian Samples

CHLOROPHYTA

Bornetella sphaerica (Zanard.) Solms-Laubach
Bryopsis sp.
Caulerpa sertularioides (Gmelin) Howe
Cladophoropsis luxurians Gilbert
Codium arabicum Kutzing
Codium edule Silva
Codium phasmaticum Setchell
Dictyosphaeria versluysii Weber van Bosse
Enteromorpha sp.
Halimeda discoidea Decaisne
Ulva fasciata Delile
Urospora sp.
Valonia aegagropila C. Ag.

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Ceramium sp.
Gelidiella acerosa (Forsskal) Feldmann and Hamel
Gelidiopsis variabile J. Ag.
Gelidium pusillum (Stackhouse) LaJolis
Gracilaria coronopifolia J. Ag.
Herposiphonia nuda Hollenberg
Hypnea musciformis (Wulfen) C. Ag.
Hypnea sp.
Jania capillacea Harvey
Laurencia nidifica J. Ag.
Polysiphonia tenuis Hollenberg
Spyridia filamentosa (Wulfen) Harvey
Tolypiocladia calodictyon (Harv.) Silva

CYANOPHYTA

Lyngbya sp.
Oscillatoria subtilissima Kutzing

PHAEOPHYTA

Dictyota friabilis Setchell
Ectocarpus indicus Sonder

SEAGRASS

Halophila ovalis (R. Br.) Hook

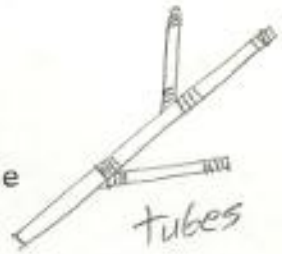
FLORIDA SAMPLES*

#9

Hypnea musciformis (Wulfen) C. Ag.	40%
Dictyopteris plagiogramme (Mont.) Vickers	40
Callophyllis microdonta (Greville) Falkenberg	20
Foliose red alga (?)	Trace

#10

Colonial tunicate	50%
Codium isthmocladium Vickers	40%
Hypnea musciformis	10
Hydrazoan (animal colonies)	Trace



#11

Gelidium crinale (Turner) Lam.	90%
Terrestrial grass	10
Dictyota sp.	Trace

#12

Gracilaria cylindrica Boerg.

*Primary reference used for identification (Taylor, 1972)

George,

The Kiholo stomach samples had Lyngbya sp. and Oscillatoria subtilissima in them, but these species were attached to patches of skin. These are typical of external skin scrapings rather than stomach samples. Are the turtles preening themselves? and ingesting some of the skin flora?

When it comes to identifying Gelidium and Pterocladia species I have to go by vegetative characteristics most of the time. These genera are separated by how many ostioles are present in their cystocarps (1 or 2) and I seldom see female thalli. The vegetative characteristics are quite variable too. I am reasonably sure my identifications are accurate, but worry over every sample rich in Gelidium or Pterocladia. What I am suggesting is that these genera are very similar in appearance at times and would be the same food in the eyes of a turtle.

Concerning the Florida samples. All of our correspondense is in a notebook I keep, but somehow the list for these last Florida samples has been temporarily misplaced. I have the numbers, but not the locations. #9-12 correspond to the order given in that list. When I find it I will send it to you.

Last time you had 15 vials credit (prepayed). This job total was 25 vials. This means you owe payment for 10 samples.

Thank you for the opportunity to help with your sea turtle research.

Aloha,

Dennis Russell

JATA III

George Balazs
Honolulu Laboratory
Southwest Fisheries Center
2570 Dole Street
Honolulu, Hawaii 96822-2396

January 6, 1988

Algae Identified from the Johnston Atoll Samples 23 Nov - 7 Dec '87

#4174 Stomach sample, 11-30-87

Caulerpa racemosa	100%
Schizothrix calcicola	Trace

#7467 Stomach sample, 11-30-87 (I would re-check the source of this sample it looks identical to skin scrapings, not at all like a stomach sample)

Polysiphonia tsudana	75%
Sphacelaria sp	25
Arthrospira sp.	Trace
Lyngbya majuscula	Trace
Microcoleus sp.	Trace
Oscillatoria sp.	Trace
Polysiphonia sp.	Trace

Multisegmented copepod
Several very long, very thin, partially coiled roundworms

#7467 Fecal sample

Bryopsis sp.	Only distinguishable algae

#7467 Shell/skin scraping

Polysiphonia tsudana	95%
Sphacelaria sp.	5
Achrochaetium sp.	Trace
Arthrospira sp.	Trace
Bryopsis sp.	Trace
Crinalium sp.	Trace
Dermocarpa clavata*	Trace
Dermocarpa sp.*	Trace
Leptochaete hansgirgi*	Trace
Oscillatoria sp.	Trace

Copepod (see drawing)
Round worms (see drawings)

*epiphytic on other algae

Dive #2 Benthic growth

Caulerpa serrulata

Girder Beach 12/5/87 (piles of beach drift)

Caulerpa serrulata

SUMMARY

RHODOPHYTA

Achrochaetium sp.
Polysiphonia tsudana Hollenberg
Polysiphonia sp.

CHLOROPHYTA

Bryopsis sp.
Caulerpa racemosa (Forsskal) J. Ag.
Caulerpa serrulata (Forsskal) J. Ag.

PHAEOPHYTA

Sphacelaria sp.

CYANOPHYTA

Arthrospira sp.
Crinalium sp.
Dermocarpa clavata Geitler
Dermocarpa sp.
Leptochaete hansgirgi Schmidle
Lyngbya majuscula Gomont
Microcoleus sp.
Oscillatoria sp.
Schizothrix calcicola (Ag.) Gomont

George,

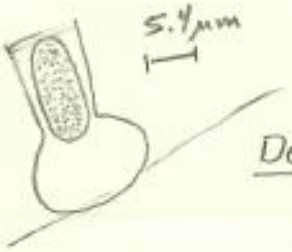
I was not able to finish a few of the identifications to species because there was either a lack of reproductive structures or conflicting features. Enclosed are drawings of some of the blue-greens, one of the round worm types and one of the copepods. This report brings your credit to 25 samples. I will work on the Hawaii and Florida samples next.

Aloha,

Dawn

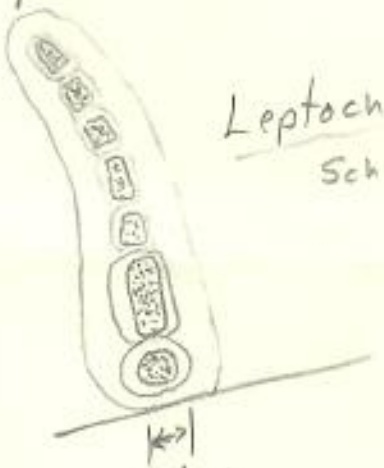
Blue-green algae

#7467
Skin scraping



Dermocarpa clavata Geitler

Dermocarpa sp.



Leptochaete hanegraegi Schmidle

Arthrospira sp.
9 µm dia.

Ribbon-like
11.3 µm wide
2.0 µm thick

Crinalium sp.

418 µm Long
22 µm wide

198 µm Long
22 µm wide

Round worms

copepod?

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812 April 21, 1987

Dear George,

I appologize for not writing you sooner. Last quarter was very demanding and many things got delayed longer than I would have wished. Because of my sabbatical in the fall I had to makeup teaching hours in the winter, therefore, I was teaching 16 hours load instead of the normal 11 hours (General Biology, Genetics and Cell Biology). This quarter is more normal with only one course (Microbiology).

I really like Genetics and especially Microbiology (which is closer to algae), these areas are really booming now, new discoveries every week in both fields. We have placed over 25 students in laboratory jobs in the Seattle area before they completed their B.S. It is hard to imagine, but one of our seniors was offered $1,600 cash, just to become a graduate student in Botany at the U. of Washington this year (he took the offer). What a change from the 1960's! There is a shortage of graduate students nation wide now. GRE applications are down 40%. I think we were born too soon George (baby boomers). Also, we are finding it much harder now to find faculty in nearly every field, it appears there may soon be a faculty shortage in the U.S., especially in the sciences. I will always be active in the area of marine plants, especially tropical algae. We hope someday to return to the islands.

Thank you for the article on the resistance of algal spores through the gut of animals. It is an interesting article and written by an old friend. I missed the article in Marine Ecology, because of the winter overload, but now have the time to get back to the library and catch up on things. I also received a copy of your Preliminary assessment of habitat utilization by Hawaiian Green turtles in their resident foraging pastures" paper. It is really impressive and represents a lot of work. Although few if anyone else will notice there were some misspellings of the algal names, a few typos got through. The important thing is, however, it reads well and contains invaluable information.

I just received 25 samples from you and will be working on them pronto. Another PO came through in December for 25 samples, therefore you had 44 samples to your credit by April 1, 1987 and now have 19 samples to your credit as of April 21, 1987. Thank you for the work, I enjoy being part of your project.

Aloha,

Dennis

George Balazs
Southwest Fisheries Center
Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii 96822-2396

June 4, 1987

Dear George,

Enclosed are the results from the latest 25 samples. I received the eight from Florida and will identify them soon. They look like Gelidiella acerosa, and others, but I will need to confirm this with the literature (which I have in my library). In the mean time, I wanted to be sure you got the results from Hawaii before I leave for Blakely Island for a month. I will be back July 4. This is the time I teach my summer school Marine Ecology course.

Aloha,

Dennis

~~12~~ MISCELLANEOUS SAMPLES SENT TO DENNIS RUSSELL 11-6-87

DATE	DESCRIPTION	LOCATION ETC.
10/22/87	#1 ENTIRE FORESTOMACH	MOKULEIA
10/22/87	#2 ENTIRE STOMACH	MOKULEIA
6/11/87	STOMACH (SMALL VIAL)	KAILUA - FRANK PARRISH
5/26/87	#1 Forestomach	—
5/26/87	#2 Stomach	—
9/11/87	Stomach	PUPUKEA
5/17/87	Stomach	kaneohe
9/5/87	Stomach	Mokuleia
8/17/87	Stomach	Kualoa
10/17/87	Stomach	Hanauma Bay S-743
10/7/87 #1	Stomach	ANAHOLA
10/7/87 #2	Stomach	ANAHOLA

KIHOLO, HAWAII, GREEN TURTLE TAGGING STUDY

21-23 OCT. 1987

STOMACH PUMP SAMPLES

VIAL/TAG NO	DATE	STRAIGHT CARAPACE LENGTH, cm	CAPTURE METHOD
870/(7778,79)	10/21	3YR TAG Recapture 66.6	HAND
8702	10/21	43.4	HAND
8704-06	10/21	55.0	HAND
8707	10/22	47.5 (curved)	NET
8709	10/22	52.7	NET

Samples TO Dr. Russell 10/27/87 from G. BALAZS

SOUTHWEST FISHERIES CNTR
HONOLULU LABORATORY
2570 DOLE STREET
HONOLULU HI 96822-2396

List of Algae Identified June 1987

1. #29 strand, P. Monel, 7/1/85, SL-49.0

Acanthophora spicifera	99%
Hypnea cervicornis	1
Gracilaria coronopifolia	Trace
Hypnea pannosa	Trace
Hypneocolax stellaris	Trace
Microdictyon sp.	Trace

2. Mokuleia, Oahu, Woczenski, 10/21/86, 42.9 cm,

Acanthophora spicifera	93%
Codium edule	5
Amansia glomerata	1
Pterocladia capillacea	1
Lobophora variegata	Trace

3. Sunset Beach, Oahu, L. Oreair, 9/30/86, Strand #77, 83.1, female

Amansia glomerata	99%
Pterocladia capillacea	1
Codium edule	Trace
Gracilaria coronopifolia	Trace
Sphacelaria tribuloides	Trace

4. Barking Sands, Kauai, 2/5/86, stomach, S 40.5cm

Amansia glomerata	99%
Gelidium sp.	Trace

5. Haleiwa Harbor, 3/1/87, JRH, S 69.9

Codium edule	80%
Ulva fasciata	20
Acanthophora spicifera	Trace
Amansia glomerata	Trace
Laurencia nidifica	Trace

6. #79 strand, Rayl, 10/13/86, 68.1cm

Acanthophora spicifera	95%
Hypnea cervicornis	4
Hypnea nidifica	1
Cladophoropsis sp.	Trace
Codium edule	Trace
Gracilaria coronopifolia	Trace
Spyridia filamentosa	Trace

7. Kahaluu, stomach, 1/27/87, possible arrival from pelagic habitat.

Amansia glomerata	30%
Codium edule	20
Dictyosphaeria cavernosa	10
Hypnea musciformis	10
Sargassum echinocarpum	10
Valonia aegagropila	5
Acanthophora spicifera	Trace
Dictyota acuteloba	Trace
Ectocarpus indicus	Trace
Sphacelaria tribuloides	Trace

8. Stomach contents, Mike Cates, 8/14/85, NOSC, 69.5cm TMR

Hypnea musciformis	90%
Codium edule	10
Acanthophora spicifera	Trace
Amansia glomerata	Trace
Gracelaria coronopifolia	Trace
Sargassum polyphyllum	Trace
Spyridia filamentosa	Trace

9. Kaneohe Bay, Akiyama, 11/25/86, 52.7

Halophila ovalis	95%
Acanthophora spicifera	5

10. Kahala Beach, 12/25/86, 75.8

Amansia glomerata	50%
Halophila ovalis	25
Acanthophora spicifera	10
Codium edule	10
Valonia aegagropila	5
Rhodymenia sp. (?)	Trace
Sargassum echinocarpum	Trace
Ulva reticulata	Trace
Sponge	Trace

11. Makani, Kaneohe Bay, 11/20/86, SL 66.0, Died at Kewalo 2/10/87

Halophila ovalis	99%
Sponge spicules	1

Several cyst-like structures present (see drawing below)

12. Portlock, fore-stomach, 3/5/87, SL 54.2

Acanthophora spicifera	95%
Laurencia nidifica	5
Hypnea cervicornis	Trace
Hypnea nidifica	Trace
Hypneocolax stellaris	Trace

13. Kailua Beach, Miller, 1/12/87, SL 67.2

Codium edule	99%
Acanthophora spicifera	1
Hypnea musciformis	Trace

14. Kaneohe Bay, Bob Man, 2/5/87, (TMRS), SL 52.2

Codium edule	99%
Sargassum echinocarpum	1
Barnacle	
Sponge spicules	

15. Turtle Bay, JRH, 3/87, SL 51.0cm

Codium edule	99%
Amansia glomerata	1

16. Mokapu Canal, Kailua Bay, (TMRS), Mrs. Scherman, 2/9/87, died at Kewalo 3/3/87, SL 53.2

Pterocladia capillacea	99%
Codium edule	1
Amansia glomerata	Trace

17. Kailua Beach, Bob Monc̈rief, 12/16/86, 46.0cm

Gelidiopsis variabile	90%
Acanthophora spicifera	5
Laurencia nidifica	5
Halimeda discoidea	Trace
Valonia aegagropila	Trace

18. Bellows, stomach contents, 1/26/86, SL 45.3cm

Codium edule	95%
Chondrococcus hornemanni	5
Amansia glomerata	Trace

19. Bellows mortality, 10/10/85, 56.2cm

Amansia glomerata	93%
Codium edule	1
Halophila ovalis	1
Cladophoropsis luxurians	Trace
Microdictyon sp.	Trace
Sargassum sp.	Trace
Black colonial ascidians	5

20. Bellows, live sampling, 3/6/86, #5988

Ulva fasciata	99%
Acanthophora spicifera	1
Spyridia filamentosa	Trace

21. Hawaii Kai, Vehon, 3/2/87, SL 49.6cm

Gelidiella acerosa	99%
Acanthophora spicifera	1
Amansia glomerata	Trace
Gelidium sp.	Trace
Ulva fasciata	Trace

22. Airport Lagoon Drive, adult male, contents of secondary stomach, 13 July 85, S 89.8

Hypnea musciformis	50%
Codium edule	45
Amansia glomerata	5
Monofilament fishing line	

23. Fore-stomach Tag #3448, 3/11/87, SL 89cm

Hypnea musciformis	99%
Dictyota acuteloba	1

24. Second stomach, Tag #3448, Area #1, 3/11/87, SL 89cm

Sargassum polyphyllum	30%
Sargassum echinocarpum	30
Amansia glomerata	25
Codium arabicum	5
Hypnea musciformis	5
Acanthophora spicifera	Trace
Halophila ovalis	Trace
Pterocladia sp.	Trace

24. Second stomach, Tag #3448, Area #2, 3/11/87, SL 89cm

Hypnea musciformis	99%
Sargassum polyphyllum	1
Dictyota acuteloba	Trace
Lyngbya mujuscula	Trace

25. Keomuku, Lanai, June 25, 1987, 40.5cm

Amansia glomerata	85%
Acanthophora spicifera	5
Cladophoropsis luxurians	5
Valonia aegagropila	4
Codium edule	1
Enteromorpha sp.	Trace
Gelidium sp.	Trace

SUMMARY OF SPECIES IN JUNE 1987 LIST

SEAGRASS

Halophila ovalis (R. Br.) Hook

CHLOROPHYTA

Cladophoropsis luxurians Gilbert
Cladophoropsis sp.
Codium edule Silva
Codium arabicum Kutzing
Dictyosphaeria cavernosa (Forsskal) Boerg.
Enteromorpha sp.
Halimeda discoidea Decaisne
Microdictyon sp.
Ulva fasciata Delile
Ulva reticulata Forsskal
Valonia aegagropila C. Ag.

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Chondrococcus hornemanni (Mert.) Schmitz
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea nidifica J. Ag.
Hypnea pannosa J. Ag.
Hypneocolax stellaris J. Ag.
Gelidiella acerosa (Forsskal) Feldmann and Hamel
Gelidium sp.
Gelidiopsis variabile J. Ag.
Gracilaria coronopifolia J. Ag.
Laurencia nidifica J. Ag.
Pterocladia capillacea (Gmelin) Bornet
Pterocladia sp.
Rhodymenia sp.
Spyridia filamentosa (Wulfen) Harvey

PHAEOPHYTA

Dictyota acuteloba J. Ag.
Ectocarpus indicus Sonder
Lobophora variegata (Lamx.) Womersley
Sargassum echinocarpum J. Ag.
Sargassum polyphyllum J. Ag.
Sargassum sp.
Sphacelaria tribuloides Meneghini

CYANOPHYTA

Lyngbya majuscula Gomont

List of Algae Identified July 1987

Palaau, Molokai, June 4, 1987 (fecal pellet)

Holophila ovalis (R. Br.) Hook	60%
Ulva rigida C. Ag.	20
Lyngbya majuscula Gomont	10
Codium sp.	10

Specimens were badly deteriorated making identifications tenuous.

ALGAE IDENTIFIED IN THE FLORIDA SAMPLES

Samples 1,2,3,4 & 6 (all the same species)

Gelidium crinale (Turner) Lamouroux

Sample 5

Gracilaria cylindrica Boerg.	60%
Codium isthmocladum Vickers	40

Sample 7

Chondria tenuissima (Goodenough & Woodward) C. Ag.

Sample 8

Hypnea cervicornis J. Ag. —trace—
Laurencia intricata Lamouroux

SUMMARY OF ALGAE IDENTIFIED FROM FLORIDA SAMPLES

SEA TURTLE RESEARCH

CHLOROPHYTA

Codium isthmocladum Vickers

RHODOPHYTA

Chondria tenuissima (Goodenough & Woodward) C. Ag.
Gelidium crinale (Turner) Lamouroux
Gracilaria cylindrica Boerg.
Hypnea cervicornis J. Ag.
Laurencia intricata Lamouroux

George Balazs
Southwest Fisheries Center
Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii 96822-2396

July 17, 1987

Dear George,

Enclosed are the results from the latest sample from Molokai and the eight from Florida. It took a bit more time and effort to make sure the Florida species were correct, but they were not as difficult as I at first feared. I have returned the samples under separate cover. You now have 10 samples to your credit. Have a good summer, George.

Aloha,

Dennis

George Balazs
Southwest Fisheries Center
Honolulu, Hawaii 96822-2396

September 23, 1987

List of Algae Identified from the June/July 1987 Samples

Tern Island FFS, stomach contents, 6/8/87 (but does this come from foraging at FFS?)

Spyridia filamentosa	30%
Turbinaria ornata	30
Codium arabicum	30
Codium edule	10
Polysiphonia exilis (on Codium)	Trace
Polysiphonia sp.	Trace

Kawela Bay, fore stomach, 7/22/87, (1)

Acanthophora spicifera	60%
Codium arabicum	20
Laurencia nidifica	10
Sargassum polyphyllum	10
Dictyosphaeria versluysii	Trace
Dictyota friabilis	Trace
Gelidium crinale	Trace

Kawela Bay, Stomach, 7/22/87, (2)

Gentner Mortality

Acanthophora spicifera	60%
Codium arabicum	40
Dictyota friabilis	Trace
Gelidium crinale	Trace
Sargassum polyphyllum	Trace

Kawela Bay, cecum contents, 7/22/87

Acanthophora spicifera	90%
Codium arabicum	5
Codium edule	5
Gelidium sp.	Trace
Sargassum polyphyllum	Trace

SUMMARY

CHLOROPHYTA

Codium arabicum Kützing
Codium edule Silva
Dictyosphaeria versluysii Weber van Bosse

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Gelidium crinale (Turner) Lamour.
Gelidium sp.
Laurencia nidifica J. Ag.
Polysiphonia exilis Hollenberg
Polysiphonia sp.
Spyridia filamentosa (Wulfen) Harvey

PHAEOPHYTA

Dictyota friabilis Setchell
Sargassum polyphyllum J. Ag.
Turbinaria ornata (Turner) J. Ag.

George,

I enclosed an article, about the changing morphology of Caulerpa racemosa under different light conditions, in the carton of samples that are returning under different cover. Be sure to open the box to get the article. There are probably more articles about the placticity of Caulerpa, but I'd have to spend more time to find them. This one will give you an idea about the problems of describing varieties of this species. I also received a PO for 25 more samples (40-JJNF-7-462). This brings your credit up to 31 samples remaining. Classes begin for me next tuesday.

Aloha,

Dennis

April 15, 1987 F/SWC2:GHB

Dr. Dennis Russell
Seattle Pacific University
Seattle, WA 98119

Dear Dennis,

Enclosed are 15 more samples of turtle algae for your expert identification. The collection data are as follows:

Date	Carapace length (cm)	Location	Other
1/26/87	45.3	Bellows Beach	Black liquid in anterior of small intestine. Not petroleum.
3/01/87	69.9	Haleiwa Harbor	Tmrs; JRH
8/14/85	69.5	NOSC, Kaneohe Bay	Tmrs; Mike Cates; Strand #46, 1985
7/13/85	89.8	Airport Lagoon Drive	Tmrs; male strand #34, 1985
10/10/85	56.2	Bellows offshore	Died at SLP strand #51, 1985
11/25/86	52.7	Kaneohe Bay	Akiyama; strand #90, 1986
12/25/86	75.8	Kahala Beach	Tmrs; strand #97, 1986
12/16/86	46.0	Kailua Beach	Moncrief; strand #93, 1986
2/05/86	40.5	Hana, Kauai	Strand #6, 1986
6/25/86	40.5	Keomuku, Lanai	Strand #46, 1986
3/06/86	--	Bellows	Tag 8865 live sampling
10/21/86	42.9	Mokuleia, Oahu	Woozewski; strand #80, 1986
9/30/86	83.1	Sunset Beach	L. Orealr; tmrs; strand #77, 1986; female

Date	Carapace length (cm)	Location	Other
10/13/86	68.1	Kaneone Bay	Tmrs; Rayl; strand #79, 1986
7/01/85	49.0	Kailua Beach	P. Monel; strand #29, 1985

Best regards.

Sincerely,

George H. Balazs
Zoologist

GHB:ey
cc: Balazs
HL

April 10, 1987 F/SWC2:GHB

Dr. Dennis Russell
Seattle Pacific University
Seattle, WA 98119

Dear Dennis,

Under separate cover I am sending you 11 vials of algae recently collected from dead, stranded Hawaiian green turtles. Your expert identification of these samples, at your earliest convenience, will be greatly appreciated. A listing of the vials is as follows:

Date	Carapace length (cm)	Stranding location	Other descriptive information on label
3/11/87	89.0	Kaneohe Bay	Tag 3349; fore-stomach
3/11/87	89.0	Kaneohe Bay	Tag 3348; second-stomach #1
3/11/87	89.0	Kaneohe Bay	Tag 3348; second-stomach #2
3/05/87	54.2	Portlock	Fore-stomach
11/20/87	66.0	MaKanikai	Tmrs; died at Kewalo 2/10/87
1/12/87	67.2	Kailua	Miller
1/27/87	37.8	Kahaluu	Fore-stomach; new recruit?
2/05/87	52.2	Kaneohe Bay	Tmrs; Bob Mau
3/87	51.0	Turtle Bay Hilton	JRH
3/02/87	49.6	Hawaii Kai	Venon
2/9/87	53.2	Mokapu, Kailua Bay	Tmrs; died at Kewalo 3/3/87

Unless you find something that is very unusual, none of the samples need to be returned. Many thanks for your continuing professional assistance.

Sincerely,

George H. Balazs
Zoologist

GHB:ey
cc: Balazs
HL

INVENTORY OF ALGAE SPECIMENS

#1 - taken 05 May 86 from green turtle
carcass salvaged from beach - Pompano Beach, FL (Broward County)
cause of death unknown
38.10 cm, curved carapace length
33.02 cm, Curved carapace width

#2 - taken 09 June 86 from green turtle
carcass salvaged from beach, Lauderdale-by-the-Sea, FL (Broward County)
propeller cut to carapace
35.00 cm, curved carapace length
30.00 cm, curved carapace width

#3 - taken 15 June 86 from green turtle
carcass salvaged from beach - Hillsboro Beach, FL (Broward County)
propeller cut to carapace
approx 40 cm, curved carapace length

#4 - taken 15 June 86 from green turtle
carcass salvaged from beach - Hillsboro Beach, FL (Broward County)
propeller cut to carapace
approx. 70 cm, curved carapace length

#5 - taken 18 July 86 from green turtle
carcass salvaged from beach - Pompano Beach, FL (Broward County)
cause of death unknown
72.39 cm, curved carapace length
68.58 cm, curved carapace width

#6 - taken 07 February 87 from green turtle
carcass salvaged from beach, Lauderdale-by-the-Sea, FL (Broward County)
propeller cut to carapace
43.00 cm, curved carapace length
36.00 cm, curved carapace width

#7 - taken 19 April 87 from sand bottom
approx. 600 yards offshore (between 1st and 2nd reef areas)
Lauderdale-by-the-Sea, FL (Broward County)

#8 - taken 20 May 87 from limestone substrate
approx. 150 yards offshore on 1st reef
Lauderdale-by-the-Sea/Galt Ocean Mile, FL (Broward County)

10/5/87 - 4 SAMPLES SENT TO DENNIS RUSSELL

#9 - taken in April or May 87 from green turtle
carcass salvaged from John U. Lloyd Beach by Judy Hicklin & frozen
necropsy performed on 28 June 87 by Mike Carwardine & Bob Wershoven
Propeller cut to carapace
42.7 cm, straight carapace length
34.0 cm, straight carapace width

INVENTORY OF ALGAE SPECIMENS (CONT'D)

#10 - taken in April or May 87 from green turtle
carcass salvaged from John U. Lloyd beach by Judy Hicklin & frozen
necropsy performed on 28 June 87 by Mike Carwardine & Bob Wershoven
propeller cut to neck and head
38.3 cm, straight line length
31.0 cm, straight line width

#11 - taken 22 August 87 from green turtle
carcass salvaged from Delray Beach Public Beach, Palm Beach County on
21 August 87
Necropsy performed on 22 August by Mike Carwardine & Bob Wershoven
propeller cut to left rear quadrant of carapace
36.4 cm, straight line length
28.1 cm, straight line width

#12 - bottom sample from sand area outside Oakland Ridges 2nd reef area off
Broward County, depth - 50 ft.

BROWARD COUNTY AUDUBON SOCIETY

MEMBER
National Audubon Society
Florida Audubon Society

August 25, 1987

George H. Balazs
Zoologist, Marine Mammals and
Endangered Species Program
National Marine Fisheries Service
2570 Dole Street
Honolulu, Hawaii 96822-2396

Dear George:

Enclosed please find four more samples of algae. Three are from dead greens. Samples #9 & 10 are from turtles which spent considerable time in a freezer between the time of salvage and necropsy. I hope they are still identifiable. Sample #11 is very fresh. For #12, we spent a lot of time on the reefs and in the sand between the reefs looking for Gelidium spp. and Gracelaria spp. We even got permission to snorkel the jetties at our major port. This is all we could find that even resembled either species.

Thanks for having these looked at for us. We really appreciate your help and interest in our project.

With best regards,

Bob

Bob Wershoven

Post Office Box 16343 • Plantation, Florida 33318 • (305) 792-7119

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

February 15, 1986

Dear George,

The last sample you sent to me was not that difficult to identify, but took longer than expected. I'll be quicker next time. Winter quarter is often my busiest. Unfortunately there were no algae in the sample that are only known from South America. The ones in the sample were:

Polysiphonia scopulorum Harvey

Polysiphonia upolensis (Grunow) Hollenberg

Both of these are pantropical, occuring in Mexico, Miami, Australia, Hawaii and the South Pacific. The two species were about 50-50% in the sample. There was also an animal, perhaps a bryozoan or hydrozoan and some round worms. I made several slides from the sample and could not find anything else, but will look once more before sending the sample back to you.

Your letter of 1-23-1986 asked about the Caulerpa racemosa var. peltata identifications. The varieties of Caulerpa racemosa are based on the shape of the ramuli or little branches. The ramuli of var peltata are very flat and the others are not as flat, but somewhat rounded on top or even club-shaped. Some people think they blend into each other and sometimes two or three shapes are found on the same thallus. The variety level of classification is really not distinct except at the extremes.

Also, sometimes the formalin will change the shapes of the ramuli and make them flatter than when fresh.

The species is easy to identify and I gave variety names whenever I found a ramulus that looked distinctive. Usually the ramuli in the samples are detached from each other (chewed up), but other times they are not. Look at the sample again and if all the branches are very distinctly flat, shaped like thumb tacks (more or less) it is a good peltata variety. I suspect the sample might be borderline between two varieties. Some algologists refuse to use the variety names and put all variations under the one species name Caulerpa racemosa. Maybe you will want to do the same thing to avoid confusion.

Thank you for the most interesting paper. You are really finding out a lot about these turtles.

Aloha,

DENNIS' HERE ARE A FEW SAMPLES LIKE I WOULD LIKE IDED TO HAVE IDED. THEY ARE ALL FROM DEAD, STRANDED TURTLES. ALOHA, GEORGE

5 ALGAE SAMPLES FROM GREEN TURTLES SENT TO DENNIS RUSSELL 6/27/86

DATE	SOURCE	STRAIGHT CARAPACE LENGTH, cm
3/86	SAND IS., OAHU	38.6 cm
3/12/86	KAHALA, OAHU	55 cm
4/4/86	HALEOPALOA, LANAI	47.5 cm
6/20/86	EAST IS., FFS	72 cm
6/27/86	KAHALUU, OAHU	85 cm

ALL STOMACH CONTENTS

FOUR ALGAE SAMPLES SENT
TO DENNIS RUSSELL 9/30/86

1 - Green turtle fecal pellet - Kawela Bay 8-28-86

2 - " " " " "

3 - " " " "

4 STOMACH CONTENTS -
68 cm DEAD GREEN TURTLE FROM KANEOHE
BAY 9-13-86

From G. BALAZS

NOAA, National Marine Fisheries Service
SWFC Honolulu Laboratory F/SWC2
2570 Dole Street
Honolulu, HI 96822-2396

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

18 November 1986

Dear George,

These are the results of the latest (10/17/86) identifications (14 samples):

3/8/86 S: 74.5 x 61.8 male Barber's Point, Oahu (stomach; tumors)

Codium edule	93%
Codium arabicum	5
Gelidium pucillum	2
Amansia glomerata	Trace
Acanthopora spicifera	Trace
Pterocladia capillacea	Trace

3/26/86 S: 68.9 x 54.3 male Haleiwa, Oahu (stomach; tumors)

Codium edule	40%
Gelidium pusillum	40
Turbinaria ornata	20
Hypnea musciformis	Trace
Ulva reticulata	Trace

6/19/86 S: 65.4 x 50.5 male, Kaneohe Bay, Oahu, Lilipuna Pier (stomach; tumors)

Hypnea musciformis	60%
Gracilaria bursapastoris	30
Laurencia nidifica	10
Acanthophora spicifera	Trace
Caulerpa racemosa	Trace
Codium edule	Trace
Dictyota acuteloba	Trace
Lyngbya majuscula	Trace
Polysiphonia sp.	Trace

7/6/86 S: 61.6 x 46.8 male, Waikiki Beach, Oahu, Carlson (stomach contents)

Ulva reticulata	80%
Amansia glomerata	10
Chondrococcus hornemanni	5
Colonial ascidian	5
Gelidium crinale	Trace
Laurencia sp.	Trace
Polysiphonia howei	Trace

6/22/86 S: 58.6 female, Kahaluu, Tag: 8491, 8492, Strand 26 1985 (stomach; tumors)

Hypnea musciformis	95%
Acanthophora spicifera	5
Dictyota acuteloba	Trace

8/3/86 S: 41.7, Tag 8868, Kahe P.P. (stomach)

Codium edule	50%
Gelidium pusillum	45
Amansia glomerata	5
Dictyosphaeria cavernosa	Trace

8/15/86 S: 43.8, Wailua, Oahu, Mrs. Debina (stomach)

Acanthophora spicifera	80%
Codium arabicum	15
Codium edule	5
Amansia glomerata	Trace
Pterocladia capillacea	Trace

8/18/86 adult size, speared, Carswell, Kaneohe Bay, Oahu (stomach)

Halophila ovalis	40%
Acanthophora spicifera	35
Codium edule	20
Hypnea cervicornis	2
Dictyosphaeria versluysii	1
Gracilaria coronopifolia	1
Ulva fasciata	1
Laurencia sp.	Trace

8/19/86 S: 60.0, male, Hanalei, Kauai, Heacock (stomach)

Amansia glomerata	100%

9/7/86 S: 36.1, female (Hawksbill), Kahului Harbor, Maui (stomach and intestinal contents)

Codium edule	75%
Sand	10
Fish bones	10
Fish skin ?	5
Amansia glomerata	Trace
Gelidium sp.	Trace

8/28/86 Kawela Bay (#1) Green turtle fecal pellet

Codium edule	70%
Amansia glomerata	15
Codium arabicum	10
Acanthophora spicifera	5

*much of the remaining dark substance is not recognizable

8/28/86 Kawela Bay (#2) Green turtle fecal pellet

Codium edule	85%
Acanthophora spicifera	10
Halophila ovalis	5

*much of the remaining dark substance is not recognizable

8/28/86 Kawela Bay (#3) Green turtle fecal pellet

Codium edule	80%
Amansia glomerata	15
Acanthophora spicifera	5

*much of the remaining brown material is not recognizable

9/13/86 S: 68, green turtle, Kaneohe Bay, dead with tumors (stomach contents)

Hypnea musciformis	50%
Codium edule	40
Dictyosphaeria cavernosa	10
Acanthophora spicifera	Trace
Laurencia sp.	Trace
Lyngbya majuscula	Trace
Polysiphonia howei	Trace
Sargassum echinocarpum	Trace
Sargassum polyphyllum	Trace

SUMMARY OF SPECIES LISTED

Seagrass (flowering plant)

Halophila ovalis (R. Br.) Hook

CHLOROPHYTA (green algae)

Caulerpa racemosa (Forsskal) J. Ag.
Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria carvernosa (Forsskal) Boerg.
Dictyosphaeria versluysii Weber van Bosse
Ulva fasciata Delile
Ulva reticulata Forsskal

PHAEOPHYTA (brown algae)

Dictyota acuteloba J. Ag.
Sargassum echinocarpum J. Ag.
Sargassum polyphyllum J. Ag.
Turbinaria ornata (Turn.) J. Ag.

RHODOPHORA (red algae)

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Chondrococcus hornemanni (Mert.) Schmitz
Gelidium crinale (Turn.) Lamour.
Gelidium pusillum (Stackhouse) LaJolis
Gracilaria bursapastoris (Gmel.) Silva
Gracilaria coronopifolia J. Ag.
Hypnea musciformis (Wulfen) C. Ag.

Laurencia nidifica J. Ag.
Laurencia sp.
Polysiphonia howei Hollenberg
Pterocladia capillacea (Gmel.) Bornet

CYANOPHYTA (blue-green algae)

Lyngbya majuscula Gomont

George,

You now have 19 more samples on credit. I have some good and some bad news. The good news is that the Hawaii Study Tour of mine has 30 students in it an I will be coming to Maui, Molokai and Oahu December 10-31, also, it looks as if I will gain tenure this year (there is still some formality that may stop me, but at least it looks good). The bad news is that the manuscript I sent to you and to the Bull. Mar. Sci. was not accepted - for various reasons, which are valid. This means I will have to re-write it for a different journal. At least the information is together in one spot, the references in order, and it is on the word processor (a real plus!). Instead of quoting the paper as if it is in Bull. Mar. Sci., you may just want to say (MS) or (Personal Communication, DJR).

I hope to see you in late December, George. I'll call from Maui or Molokai.

Aloha,

Dennis Russell

I'll keep the samples for a few months in case you want them returned, then discard them as you indicated in your letter.

School of Natural & Mathematical Sciences

Seattle Pacific University
Seattle, Washington 98119
Phone: (206) 281-2140

List of Algae Identified August 1986

1. Sand Island, Oahu, 3/86, Stomach Contents (HCC) SL: 38.6 cm

Hypnea musciformis	30%
Codium edule	30
Gelidium puscillum	20
Sargassum polyphyllum	10
Amansia glomerata	10

2. Kahala, 3/12/86, SL: 55 cm, Stomach Contents

Amansia glomerata	85%
Acanthophora spicifera	5
Laurencia sp.	5
Codium edule	5
Microdictyon sp.	Trace
Ceramium sp.	Trace

3. Lanai, 4/4/86, SL: 47.5, Stomach Contents

Amansia glomerata	70%
Acanthophora spicifera	30
Laurencia nidifica	Trace
Spyridia filamentosa	Trace
Hypnea spinella	Trace

4. East Island, FFS, 6/20/86, SL: 72 cm

Turbinaria ornata	30%
Bryopsis pennata	30
Microdictyon sp.	30
Spyridia filamentosa	10
Ceramium sp.	Trace
Halimeda sp.	Trace
Laurencia sp.	Trace

5. Kahaluu, 6/27/86, SL: 85 cm, Stomach Contents

Hypnea musciformis	90%
Sargassum echinocarpum	5
Dictyota acuteloba	5
Laurencia sp.	Trace
Polysiphonia sp.	Trace

All of these species are on the master list (August 15, 1985), which gives the author's names, phyla, etc.

School of Natural & Mathematical Sciences

Seattle Pacific University
Seattle, Washington 98119
Phone: (206) 281-2140

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

August 8, 1986

Dear George,

It was nice to see you and to meet your family. I have enclosed the picture I took of you, but my camera had a light leak so it was ruined. Thankyou for the nice poster and certificate. It is really a good one, I have shown it to several people and they really like it too. I appreciate it and will have it mounted and framed.

I have finished the samples you sent and have the results on the next page. You now have 33 sample identifications remaining on credit. Perhaps you will have the chance to meet my wife and son when we come to Hawaii in December. I hope so.

Aloha,

Dennis

School of Natural & Mathematical Sciences

Seattle Pacific University
Seattle, Washington 98119
Phone: (206) 281-2140

List of Algae Identified August 1986

1. Sand Island, Oahu, 3/86, Stomach Contents (HCC) SL: 38.6 cm

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Codium edule	30
Gelidium puscillum	20
Sargassum polyphyllum	10
Amansia glomerata	10

2. Kahala, 3/12/86, SL: 55 cm, Stomach Contents

Amansia glomerata	85%
Acanthophora spicifera	5
Laurencia sp.	5
Codium edule	5
Microdictyon sp.	Trace
Ceramium sp.	Trace

3. Lanai, 4/4/86, SL: 47.5, Stomach Contents

Amansia glomerata	70%
Acanthophora spicifera	30
Laurencia nidifica	Trace
Spyridia filamentosa	Trace
Hypnea spinella	Trace

4. East Island, FFS, 6/20/86, SL: 72 cm

Turbinaria ornata	30%
Bryopsis pennata	30
Microdictyon sp.	30
Spyridia filamentosa	10
Ceramium sp.	Trace
Halimeda sp.	Trace
Laurencia sp.	Trace

5. Kahaluu, 6/27/86, SL: 85 cm, Stomach Contents

Hypnea musciformis	90%
Sargassum echinocarpum	5
Dictyota acuteloba	5
Laurencia sp.	Trace
Polysiphonia sp.	Trace

All of these species are on the master list (August 15, 1985), which gives the author's names, phyla, etc.

GREEN TURTLE (AND ONE HAWKSBILL)

STOMACH ALGAE SAMPLES SENT TO DENNIS RUSSELL

10/17/86 — DIVIDED INTO 2 BOXES

FROM G. BALAZS

SOUTHWEST FISHERIES CNTR
HONOLULU LABORATORY
2570 DOLE STREET
HONOLULU HI 96822-2396

DATE	STRAIGHT CARAPACE LENGTH (cm)	SEX	LOCATION AND OTHER INFO
BOX #1			
3/8/86	74.5	M	BARBERS PT, OAHU. TUMORS
3/26/86	68.9	M	HALEIWA, OAHU. TUMORS
6/19/86	65.4	M	KANEOHE BAY, LILIPUNA PIER. TUMORS
7/6/86	61.6	M	WAIKIKI BEACH. BRUCE CARLSON
6/22/85	58.6	F	KAHALUU, OAHU. SPEARED. TUMORS. STRAND #26 FOR 1985
BOX #2			
8/3/86	41.7	—	KAHE PT. P.P.
8/15/86	43.8	—	WAILUA, OAHU. DEBINA
8/18/86	ADULT	—	KANEOHE BAY. SPEARED. CARSWELL
8/19/86	60.0	M	HANALEI, KAUAI. SPEARED. HANCOCK
9/7/86	36.1	F (HAWKSBILL)	KAHULUI HARBOR, MAUI

10 TOTAL

NOTE: RETURN OF THESE SAMPLES NOT NECESSIARY UNLESS SOMETHING EXTRAORDINARY TURNS UP. DISCARD AFTER ID.

School of Natural & Mathematical Sciences

Seattle Pacific University
Seattle, Washington 98119
Phone: (206) 281-2140

List of Algae Identified August 1986

1. Sand Island, Oahu, 3/86, Stomach Contents (HCC) SL: 38.6 cm

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Codium edule	30
Gelidium puscillum	20
Sargassum polyphyllum	10
Amansia glomerata	10

2. Kahala, 3/12/86, SL: 55 cm, Stomach Contents

Amansia glomerata	85%
Acanthophora spicifera	5
Laurencia sp.	5
Codium edule	5
Microdictyon sp.	Trace
Ceramium sp.	Trace

3. Lanai, 4/4/86, SL: 47.5, Stomach Contents

Amansia glomerata	70%
Acanthophora spicifera	30
Laurencia nidifica	Trace
Spyridia filamentosa	Trace
Hypnea spinella	Trace

4. East Island, FFS, 6/20/86, SL: 72 cm

Turbinaria ornata	30%
Bryopsis pennata	30
Microdictyon sp.	30
Spyridia filamentosa	10
Ceramium sp.	Trace
Halimeda sp.	Trace
Laurencia sp.	Trace

5. Kahaluu, 6/27/86, SL: 85 cm, Stomach Contents

Hypnea musciformis	90%
Sargassum echinocarpum	5
Dictyota acuteloba	5
Laurencia sp.	Trace
Polysiphonia sp.	Trace

All of these species are on the master list (August 15, 1985), which gives the author's names, phyla, etc.

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

18 November 1986

Dear George,

These are the results of the latest (10/17/86) identifications (14 samples):

3/8/86 S: 74.5 x 61.8 male Barber's Point, Oahu (stomach; tumors)

Codium edule	93%
Codium arabicum	5
Gelidium pucillum	2
Amansia glomerata	Trace
Acanthopora spicifera	Trace
Pterocladia capillacea	Trace

3/26/86 S: 68.9 x 54.3 male Haleiwa, Oahu (stomach; tumors)

Codium edule	40%
Gelidium pusillum	40
Turbinaria ornata	20
Hypnea musciformis	Trace
Ulva reticulata	Trace

6/19/86 S: 65.4 x 50.5 male, Kaneohe Bay, Oahu, Lilipuna Pier (stomach; tumors)

Hypnea musciformis	60%
Gracilaria bursapastoris	30
Laurencia nidifica	10
Acanthophora spicifera	Trace
Caulerpa racemosa	Trace
Codium edule	Trace
Dictyota acuteloba	Trace
Lyngbya majuscula	Trace
Polysiphonia sp.	Trace

7/6/86 S: 61.6 x 46.8 male, Waikiki Beach, Oahu, Carlson (stomach contents)

Ulva reticulata	80%
Amansia glomerata	10
Chondrococcus hornemanni	5
Colonial ascidian	5
Gelidium crinale	Trace
Laurencia sp.	Trace
Polysiphonia howei	Trace

6/22/86 S: 58.6 female, Kahaluu, Tag: 8491, 8492, Strand 26 1985 (stomach; tumors)

Hypnea musciformis	95%
Acanthophora spicifera	5
Dictyota acuteloba	Trace

8/3/86 S: 41.7, Tag 8868, Kahe P.P. (stomach)

Codium edule	50%
Gelidium pusillum	45
Amansia glomerata	5
Dictyosphaeria cavernosa	Trace

8/15/86 S: 43.8, Wailua, Oahu, Mrs. Debina (stomach)

Acanthophora spicifera	80%
Codium arabicum	15
Codium edule	5
Amansia glomerata	Trace
Pterocladia capillacea	Trace

8/18/86 adult size, speared, Carswell, Kaneohe Bay, Oahu (stomach)

Halophila ovalis	40%
Acanthophora spicifera	35
Codium edule	20
Hypnea cervicornis	2
Dictyosphaeria versluysii	1
Gracilaria coronopifolia	1
Ulva fasciata	1
Laurencia sp.	Trace

8/19/86 S: 60.0, male, Hanalei, Kauai, Heacock (stomach)

Amansia glomerata	100%

9/7/86 S: 36.1, female (Hawksbill), Kahului Harbor, Maui (stomach and intestinal contents)

Codium edule	75%
Sand	10
Fish bones	10
Fish skin ?	5
Amansia glomerata	Trace
Gelidium sp.	Trace

8/28/86 Kawela Bay (#1) Green turtle fecal pellet

Codium edule	70%
Amansia glomerata	15
Codium arabicum	10
Acanthophora spicifera	5

*much of the remaining dark substance is not recognizable

8/28/86 Kawela Bay (#2) Green turtle fecal pellet

Codium edule	85%
Acanthophora spicifera	10
Halophila ovalis	5

*much of the remaining dark substance is not recognizable

8/28/86 Kawela Bay (#3) Green turtle fecal pellet

Codium edule	80%
Amansia glomerata	15
Acanthophora spicifera	5

*much of the remaining brown material is not recognizable

9/13/86 S: 68, green turtle, Kaneohe Bay, dead with tumors (stomach contents)

Hypnea musciformis	50%
Codium edule	40
Dictyosphaeria cavernosa	10
Acanthophora spicifera	Trace
Laurencia sp.	Trace
Lyngbya majuscula	Trace
Polysiphonia howei	Trace
Sargassum echinocarpum	Trace
Sargassum polyphyllum	Trace

SUMMARY OF SPECIES LISTED

Seagrass (flowering plant)

Halophila ovalis (R. Br.) Hook

CHLOROPHYTA (green algae)

Caulerpa racemosa (Forsskal) J. Ag.
Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria carvernosa (Forsskal) Boerg.
Dictyosphaeria versluysii Weber van Bosse
Ulva fasciata Delile
Ulva reticulata Forsskal

PHAEOPHYTA (brown algae)

Dictyota acuteloba J. Ag.
Sargassum echinocarpum J. Ag.
Sargassum polyphyllum J. Ag.
Turbinaria ornata (Turn.) J. Ag.

RHODOPHORA (red algae)

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Chondrococcus hornemanni (Mert.) Schmitz
Gelidium crinale (Turn.) Lamour.
Gelidium pusillum (Stackhouse) LaJolis
Gracilaria bursapastoris (Gmel.) Silva
Gracilaria coronopifolia J. Ag.
Hypnea musciformis (Wulfen) C. Ag.

Laurencia nidifica J. Ag.
Laurencia sp.
Polysiphonia howei Hollenberg
Pterocladia capillacea (Gmel.) Bornet

CYANOPHYTA (blue-green algae)

Lyngbya majuscula Gomont

George,

You now have 19 more samples on credit. I have some good and some bad news. The good news is that the Hawaii Study Tour of mine has 30 students in it an I will be coming to Maui, Molokai and Oahu December 10-31, also, it looks as if I will gain tenure this year (there is still some formality that may stop me, but at least it looks good). The bad news is that the manuscript I sent to you and to the Bull. Mar. Sci. was not accepted - for various reasons, which are valid. This means I will have to re-write it for a different journal. At least the information is together in one spot, the references in order, and it is on the word processor (a real plus!). Instead of quoting the paper as if it is in Bull. Mar. Sci., you may just want to say (MS) or (Personal Communication, DJR).

I hope to see you in late December, George. I'll call from Maui or Molokai.

Aloha,

Dennis J. Russell

I'll keep the samples for a few months in case you want them returned, then discard them as you indicated in your letter.

JOHNSTON JATA II

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

25 November 1985

Dear George,

These are the results of the latest identifications (10 samples):

#4153 Stomach

Polysiphonia tsudana	Trace
Caulerpa racemosa	Trace

#4157 (7) Stomach

Caularpa racemosa var. peltata
2 amphipods

#4161 Stomach

Bryopsis sp.	Trace

3 amphipods

#4165 (9) Stomach

Caulerpa racemosa	Trace
Sphacelaria furcigera	Trace
Acrochaetium sp.	Trace

#4170 (10) Stomach

Polysiphonia tsudana	Trace
Halophila ovalis	Trace
Lyngbya sp.	Trace

chips of dark blue paint

#7433 Stomach

Polysiphonia tsudana	Trace
Caulerpa racemosa	Trace

#7437 Stomach

Bryopsis pennata	Trace
Griffithsia sp.	Trace

#7441 Stomach

Caulerpa racemosa var. peltata

#7445 Stomach

Halophila ovalis	50%
Caulerpa racemosa var. peltata	50%
Polysiphonia tsudana	Trace
Lyngbya sp.	Trace

#7449 Stomach

Halophila ovalis	60%
Bryopsis pennata	40%
Griffithsia sp.	Trace
Ceramium sp.	Trace

SUMMARY OF SPECIES LISTED

Seagrass (flowering plant)

Halophila ovalis (R. Br.) Hook

CHLOROPHYTA (green algae)

Bryopsis pennata Lamx.
Caulerpa racemosa (Forsskal) J. Ag.
Caulerpa racemosa var. peltata (Lam.) Eubank

PHAEOPHYTA (brown algae)

Sphacelaria furcigera Kutzing

RHODOPHORA (red algae)

Polysiphonia tsudana Hollenberg
Griffithsia sp.
Ceramium sp.
Acrochaetium sp.

CYANOPHYTA (blue-green algae)

Lyngbya sp.

George,

There was very little that could be identified in these samples. I found a lot of mush and epithelial cells, but few algae. Some of the algae identified are typical of skin or shell algae (Polysiphonia tsudana, Sphacelaria furcigera, Acrochaetium and Lyngbya). I found a bit of terrestrial plant material in a couple of samples, but could not place it to grass, tree, etc. A couple of samples had blue paint chips in them (#4170 in particular).

The payment for 25 vials of identification came through on monday of this week. Since there were only 10 samples in this job you have 15 more vials credit. Thank you for the opihi article and the letter you wrote for my tenure was very helpful.

Aloha,

Dennis

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

14 August 1985

Dear George,

These are the results of the latest identifications:

#7825 Molokai, stomach

Halophila ovalis	75%
Amansia glomerata	25
Dictyota acuteloba	Trace
Gelidium sp.	Trace
Acanthophora spicifera	Trace

#7828 Molokai, stomach

Chondrococcus hornemanni	90%
Amansia glomerata	Trace
Acanthophora spicifera	Trace

Amphipod (1)

#7829 Molokai, stomach

Acanthophora spicifera	75%
Spyridia filamentosa	25
Dictyota divaricata	Trace
Laurencia nidifica	Trace
Ceramium sp.	Trace
Polysiphonia sp.	Trace
Sphacelaria sp.	Trace

Amphipod (1)

Lanai Federation #2 7-12-85
Intertidal limestone bench

Enteromorpha tubulosa

Pakanaka, Molokai 7-19-85

Lyngbya majuscula	90%
Acanthophora spicifera	10

#7833 Molokai, stomach 7-18-85

Turbinaria ornata	40%
Amansia glomerata	30
Chondrococcus hornemanni	30
Dictyopteris plagiogramma	Trace

Amphipods (2)

#7835 Molokai, stomach 7-18-85

Spyridia filamentosa	75%
Acanthophora spicifera	25
Amansia glomerata	Trace
Bryopsis pennata	Trace
Valonia aegagropila	Trace
Ceramium sp.	Trace
Lyngbya majuscula	Trace
Oscillatoria sp.	Trace

#7831 Molokai, stomach

Amansia glomerata	75%
Acanthophora spicifera	25
Laurencia nidifica	Trace
Dictyota divaricata	Trace
Sphacelaria tribuloides	Trace
Polysiphonia sp.	Trace
Hypnea cervicornis	Trace

#7893 Molokai, stomach

Spyridia filamentosa	40%
Acanthophora spicifera	20
Laurencia nidifica	20
Hypnea cervicornis	20
Centroceros clavulatum	Trace
Sargassum polyphyllum	Trace
Dictyota sp.	Trace

Amphipods (3)
Small snails

#7917 Molokai

Sphacelaria furcigera	50%
Polysiphonia tsudana	20
Polysiphonia setacea	20
Pilinia rimosa	10
Calothrix sp.	Trace

Roundworms

#7921 Molokai, stomach

Acanthophra spicifera	80%
Spyridia filamentosa	15
Valonia aegagropila	5
Polysiphonia howei	Trace

Amphipods (7)

#8514 Lanai, mouth

Acanthophora spicifera	90%
Hypnea musciformis (?)	10
Griffithsia sp.	Trace
Ulva fasciata	Trace

#8516 Lanai, mouth

Acanthophora spicifera	90%
Hypnea musciformis (?)	5
Ulva fasciata	5

Lanai, "Shipwreck" site, intertidal limestone beach, 7-11-85

Acanthophora spicifera	40%
Ulva fasciata	40
Wurdemannia sp. (?)	20
Griffithsia rhizophora	Trace
Centroceros clavulatum	Trace

Brittle star

Lanai, "Federation site", reef flat, 7-11-85

Dictyota acuteloba	50%
Spyridia filamentosa	45
Nemalion sp. (?)	5
Laurencia sp.	Trace

#8539 Molokai, stomach

Acanthophora spicifera	40%
Hypnea nidifica	40
Amansia glomerata	20
Halimeda discoidea	Trace
Polysiphonia sp.	Trace
Spyridia filamentosa	Trace
Hypneocolax stellaris	Trace

#8541 Molokai, stomach

Hypnea cervicornis	50%
Acanthophora spicifera	40
Halophila ovalis	10
Laurencia sp.	Trace
Amansia glomerata	Trace

#8543 Molokai

Halophila ovalis	50%
Spyridia filamentosa	30
Acanthophora spicifera	20
Lyngbya sp.	Trace

#8545 Molokai, shell scraping

Sphacelaria tribuloides	80%
Polysiphonia scropulorum	10
Lyngbya semiplena	10

#8547 Molokai

Amansia glomerata	95%
Gelidium sp.	5
Halophia ovalis	Trace
Ceramium sp.	Trace
Acrochaetium sp.	Trace
Sphacelaria sp.	Trace

Amphipods (3)

#8549 Molokai, stomach

Acanthophora spicifera	95%
Halophia ovalis	2
Amansia glomerata	2
Hypnea cervicornis	2
Ceramium sp.	Trace

#8628 Molokai, stomach

Acanthophora spicifera	99%
Hypnea cervicornis	1
Centroceros clavulatum	Trace
Polysiphonia sp.	Trace
Gelidiella sp. (?)	Trace
Terrestrial grass	Trace

LIST OF SPECIES IDENTIFIED IN THESE SAMPLES:

CHLOROPHYTA

Bryopsis pennata Lamx.
Enteromorpha tubulosa Kützing
Halimeda discoidea Decaisne
Pilinia rimosa Kutzing
Ulva fasciata Decaisne
Valonia aegagropila C. Ag.

PHAEOPHYTA

Dictyopteris plagiogramme (Mont.) Vickers
Dictyota acuteloba J. Ag.
Dictyota divaricata Lamx.
Dictyota sp.
Sargassum polyphyllum J. Ag.
Sphacelaria furcigera Kützing
Sphacelaria tribuloides Meneghini
Sphacelaria sp.
Turbinaria ornata (Turn.) J.Ag.

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Acrochaetium sp.
Amansia glomerata C. Ag.
Centroceros clavulatum (C.Ag.) Montagne
Ceramium sp.
Chondrococcus hornemanni (Mert.) Schmitz
Gelidium sp.
Gelidiella sp.
Griffithsia rhizophora Grunow
Griffithsia sp.
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea nidifica J. Ag.
Hypnea sp.
Hypneocolax stellaris J.Ag.
Laurencia nidifica J. Ag.
Laurencia sp.
Nemalion sp.
Polysiphonia howei Hollenberg
Polysiphonia scropulorum Harvey
Polysiphonia setacae Hollenberg
Polysiphonia tsudana Hollenberg
Polysiphonia sp.
Spyridia filamentosa (Wulfen) Harvey
Wurdemannia sp.

CYANOPHYTA

Calothrix sp.
Lyngbya majuscula Gomont
Lyngbya semiplena (C.Ag.) J.Ag.
Lyngbya sp.
Oscillatoria sp.

SEAGRASS

Halophila ovalis (R. Br.) Hook

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812 28 August 1985

Dear George,

These are the results of the July 5, 1985 collections

#8456 Kahului, Maui 6-85

Pterocladia sp.	Trace
Laurencia sp.	Trace

#8464 Kahului, Maui 6-17-1985

Codium edule	95%
Acanthophora spicifera	Trace
Hypnea musciformis	Trace
Halimeda discoidea	Trace
Red-orange paint chips	
Small crab leg and eyes	

#8475 6-18-85 female

Codium edule	99%
Acanthophora spicifera	1%
Amansia glomerata	Trace
Ahnfeltia concinna	Trace
Hypnea pannosa	Trace
Ceramium sp.	Trace

#8476 Kahului 6-18-1985

Codium edule	99%
Acanthophora spicifera	1%
Amansia glomerata	Trace
Champia parvula	Trace
Laurencia nidifica	Trace
Jania capillacea	Trace
Pterocladia sp.	Trace
Acrochaetium seriatum Boerg.*	Trace

#8479 Kahului, Maui 6-19-1985

Laurencia nidifica	50%
Amansia glomerata	25%
Acanthophora spicifera	25%
Chondrococcus hornemanni	Trace
Ceramium sp.	Trace
Codium edule	Trace
Champia parvula	Trace
Dictyota sp.	Trace
Small crab	
Grass fibers	
Sand	

*Indicates a species not on the master list

#8479 Skin

Chaetomorpha brachygona*

#8482

Acanthophora spicifera	99%
Amansia glomerata	Trace
Codium phasmaticum	Trace

#8489 Kawela 6-25-1985

Amansia glomerata	50%
Codium edule	25%
Pterocladia sp.	5%
Ceramium sp.	Trace
Ralfsia occidentalis	Trace

#8493 Kawela 6-28-1985

Laurencia mariannensis Yamada*	99%
Jania capillacea	Trace
Acanthophora spicifera	Trace
Polysiphonia howei	Trace
Oscillatoria sp.	Trace

#8495 6-28-85 Kawela Skin

Sphacelaria tribuloides	99%
Polysiphonia tsudana	1%
One small clawed shrimp larva	

#8495 Kawela 6-28-1985

Acanthophora spicifera	99%
Codium edule	1%
Oscillatoria sp.	Trace

#8497 Kawela 6-28-1985

Acanthophora spicifera	99%
Laurencia nidifica	1%
Terrestrial plant material	Trace

#8499 Kawela 6-28-1985

Acanthophora spicifera	99%
Ceramium sp.	Trace
Laurencia sp.	Trace
Dictyota acuteloba	Trace
Casurina (ironwood tree)	Trace

#8502 Kawela 6-28-1985

Acanthophora spiciera	all

*Indicates a species not on the master list

#8506 Kawela 7-2-1985

Acanthophora spicifera	99%
Dictyota acuteloba	Trace
Amansia glomerata	Trace
Ulva reticulata	Trace

#8508 Kawela 7-2-85

Acanthophora spicifera	99%
Laurencia nidifica	Trace
Amansia glomerata	Trace
Hypnea pannosa	Trace
Gelidium sp.	Trace
Casurina (ironwood tree)	Trace

#8510 7-2-1;985

Acanthophora spicifera	99%
Jania capillacea	Trace
Amansia glomerata	Trace
Corallina sp.	Trace

#8761 7-2-1985

Amansia glomerata	99%
Laurencia sp.	1%
Ulva reticulata	Trace
Amphipod	

#8778 Kawela 7-2-1985

Acanthophora spicifera	99%
Microdictyon sp.	Trace
Polysiphonia sp.	Trace

#8512 7-2-1985

Acanthophora spicifera	99%
Laurencia nidifica	1%

ALGAE SAMPLES SENT TO DENNIS RUSSELL ON 5-14-85

SAMPLE ID	DATE	SOURCE/LOCATION
8600	4-25-85	STOMACH CONTENTS-MOLOKAI
8580	4-24-85	STOMACH CONTENTS-MOLOKAI
8636	4-25-85	STOMACH CONTENTS-MOLOKAI
8639	4-25-85	STOMACH CONTENTS-MOLOKAI
8650	4-26-85	STOMACH CONTENTS-MOLOKAI
MOLOKAI 4-85	4-25-85	SHALLOW REEF-MOLOKAI
7260	5-4-85	STOMACH CONTENTS-LANAI
7267	5-6-85	STOMACH CONTENTS-LANAI
7272	5-7-85	STOMACH CONTENTS-KAHULUI MAUI
MAUI ASSORTMENT	5-85	REEF COLLECTION

George Balazs
National Marine Fisheries Service
P.O. Box 3830
Honolulu, Hawaii 96812

1 August 1985

Dear George,

These are the results of the latest identifications:

Sample No. 8600 Molokai 4-25-1985

Acanthophora spicifera	90%
Hypnea cervicornis	10%
Halophila ovalis (a flower)	Trace

Sample No. 8580

Amansia glomerata

Sample No. 8636

Spyridia filamentosa	99%
Ceramium sp.	Trace
Small snail egg mass	

Sample No. 8650

Acanthophora spicifera	95%
Dictyota friabilis	1%
Hypnea nidifica	1%
Dictyopteris sp.	1%
Laurencia nidifica	1%
Halophila ovalis	1%
Sargassum polyphyllum	Trace
Jania capillacea	Trace
Halimeda discoidea	Trace
Amphipod	

Sample No. 8639

Acanthophora spicifera	99%
Hypnea cervicornis	Trace
Spyridia filamentosa	Trace
Polysiphonia pseudovillum	Trace

Molokai Reef Sample

Hypnea cervicornis
Sargassum polyphyllum
Laurencia nidifica
Spyridia filamentosa

Sample No. 7260 Lanai

Amansia glomerata	99%
Jania capillacea	Trace
Acanthophora spicifera	Trace
Ceramium sp.	Trace

Sample No. 7267 Lanai 5-6-1985

Amansia glomerata	99%
Hypnea cervicornis	Trace
Jania capillacea	Trace
Sargassum polyphyllum	Trace
Amphipods	
Copepods	

Sample No. 7272 Kahului

Codium edule	99%
Antithamnion sp.	Trace
Climacosphenia	Trace
Synedra sp.	Trace

Maui Assortment (reef collection) May 1985

Codium edule
Hypnea musciformis
Amansia glomerata
Bryopsis pennata
Pterocladia capillacea
Chrysymenia glebosa
Heteroderma subtilissima (epiphytic on Pterocladia)

Reef Collection #2 6-2-1985 Palaau, Molokai

Spyridia filamentosa
Caulerpa sertularioides
Dictyota crenulata
Laurencia nidifica
Chondria tenuissima
Halophila ovalis

Reef Collection #2 5-23-1985 Waikane, Molokai

Spyridia filamentosa
Halimeda discoidea
Laurencia carolinensis

Kawainui 5-5-1985 Stranding?

Acanthophora spicifera	99%
Gelidium pucillum	Trace
Hypnea nidifica	Trace

Sample No. 8453 5-23-1985

Amansia glomerata	99%
Ceramium sp.	Trace
Hypnea sp.	Trace
Tolypiocladia calodictyon	Trace

Amphipod

Sample No. 8458 6-2-1985 Molokai

Hypnea sp.	Trace
Laurencia sp.	Trace
Codium edule	Trace
Oscillatoria sp.	Trace

Sample No. 7257 4-30-1985 Hawaii Kai

Codium edule (two pieces)
Codium arabicum (one piece)

Sample No. 7273 5-15-1985 Hawaii Kai

Ectocarpus indicus

Stomach Contents, Kahaluu, Oahu, 6-3-1985

Hypnea musciformis	95%
Dictyosphearia versluysii	2%
Gracilaria coronopifolia	1%
Sargassum polyphyllum	1%
Codium edule	1%

Gut contents, Hauula, Oahu

Codium edule	60%
Amansia glomerata	38%
Laurencia nidifica	2%
Codium arabicum	Trace
Sargassum polyphyllum	Trace
Ralfsia occidentalis	Trace
Spacelaria sp.	Trace

Stomach contents, Waiopae, Lanai 4-28-1985

Acanthophora spicifera	99%
Codium edule	1%
Codium arabicum	Trace
Chondrococcus hornemannii	Trace

Stomach contents, Halepalaoa, Lanai, May 1985

Filefish bones	99%
Amansia glomerata	1%
Acanthophora spicifera	Trace

Intestinal contents, Halepalaoa, Lanai, May 1985 I

Amansia glomerata	99%
Codium edule	1%
Acanthophora spicifera	Trace
Dictyosphaeria versluysii	Trace

Fishbones

LIST OF SPECIES IDENTIFIED IN THESE SAMPLES:

CHLOROPHYTA

Bryopsis pennata Lamx.
Caulerpa sertularioides (Gmelin) Howe
Codium arabicum Kutzing
Codium edule Silva
Dictyosphaeria versluysii Weber von Bosse
Halimeda discoidea Decaisne

PHAEOPHYTA

Dictyopteris sp.
Dictyota crenulata J. Ag.
Dictyota friabilis Setchell
Ectocarpus indicus Sonder
Ralfsia occidentalis Hollenberg
Sargassum polyphyllum J. Ag.
Sphacelaria sp.

RHODOPHYTA

Acanthophora spicifera (Vahl) Boerg.
Amansia glomerata C. Ag.
Antithamnion sp.
Ceramium sp.
Chondria tenuissima (Good. and Wood) C. Ag.
Chondrococcus hornemannii (Mert.) Schmitz
Chrysymenia glebosa Abbott and Litter
Gelidium pucillum (Stackhouse) LaJolis
Gracilaria coronopifolia J. Ag.
Heteroderma subtilissima (Foslie) Foslie
Hypnea cervicornis J. Ag.
Hypnea musciformis (Wulfen) C. Ag.
Hypnea nidifica J. Ag.
Hypnea sp.
Jania capillacea Harvey
Laurencia carolinensis Saito
Laurencia nidifica J. Ag.
Polysiphonia pseudovillum Hollenberg
Pterocladia capillacea (Gmelin) Bornet
Spyridia filamentosa (Wulfen) Harvey
Tolypiocladia calodictyon (Harvey) Silva

CYANOPHYTA

Oscillatoria sp.

BACILLARIOPHYTA (DIATOMS)

Climacosphenia sp.
Synedra sp.

SEAGRASS

Halophila ovalis (R. Br.) Hook

More coming!,

aloha,

Dennis