

Copy of e-mail sent 9/22/03

Dear Kari:

We've made considerable progress. Attached is the list of species by locations and a separate list detailing the locations. We'll need some more time to get the labels generated and the specimens sent to you, but this fulfills a major part of the contract and is close to what we will put in the final report. As with any list of specimens in a herbarium, names will change with time and you will be able to periodically check our web site for changes. We anticipate being able to identify a few more collections and will advise you as new determinations are made. Last week we sent the Lichinaceae to an expert in Germany, but it will be a month or two before we receive a reply.

Best regards, Tom

Genus	Species	locations collected at
Acarospora	cf fuscata	4, 7
Acarospora	cf schleicheri	9
Acarospora	strigata	2, 3, 4, 6, 7, 8, 12, 14, 15,
Anthonia	sp	6
Aspicilia	calcarea	2, 5, 6, 8, 9, 11, 14, 15, 17
Aspicilia	tridentata	2
Buellia	albratra	6
Buellia	dispersa	5, 6, 14
Caloplaca	approximata	2, 14
Caloplaca	arenaria	2, 8
Caloplaca	arizonica	1, 5, 8
Caloplaca	cerina	2, 4, 8, 9, 14
Caloplaca	cf castellana	2
Caloplaca	cf microphyllina	1, 6, 8
Caloplaca	decipiens	6, 7, 12
Caloplaca	epithallina	8, 10
Caloplaca	feracissima	6, 10
Caloplaca	holocarpa	1, 2
Caloplaca	saxicola	2, 3, 6, 7, 8, 10, 17
Caloplaca	squamosa	15
Caloplaca	subsoluta	8, 15
Candelaria	concolor	5, 6
Candelaria	concolor var. effusa	8
Candelariella	antennaria	1, 2, 3, 4, 8, 9, 17
Candelariella	aurella	2, 3, 5, 6, 7, 8, 10, 16, 17
Candelariella	efflorescens	6, 8
Candelariella	rosulans	2, 5, 6, 7, 8, 9, 12, 14, 15, 17,
Candelariella	terrigena	8
Candelariella	xanthostigma	8
Carbonea	vitellinaria	11
Catapyrenium	acarosporoides	6
Collema	cf coccophorum	1, 12, 13, 14
Collema	furfuraceum	11
Collema	undulatum	3
Cyphelium	cf tigillare	5
Dermatocarpon	americanum	2, 6, 8, 16, 17
Dermatocarpon	schaechtelinii	2, 3, 6, 9, 17
Dermatocarpon	taminium	2, 3, 6, 7, 11, 12, 17
Dermatocarpon	tenue	8
Digitothyrea	divergens	5
Dimelaena	oreina	8, 9, 10, 11
Diploschistes	scruposus	9, 10, 11, 12, 14
Flavopunctelia	soredia	5
Fulgensia	desertorum	12
Fulgensia	cf subbracteata	12

Gonohymenium	sp	2
Heterodermia	japonica	5
Hypocenomyce	freisii	8
Hypocenomyce	oligospora	8
Lecania	sp	2, 3
Lecanora	argopholis	11
Lecanora	crenulata	2, 3, 6, 7, 14
Lecanora	decipiens	8
Lecanora	dispersa	8, 14, 17
Lecanora	garovaglii	2, 7, 8, 14, 15
Lecanora	hageni	5
Lecanora	muralis	2, 3, 5, 6, 7, 8, 10, 11, 12, 15, 17
Lecanora	novomexicana	9, 10
Lecanora	piniperda	8
Lecanora	pruinosa	6
Lecanora	subfusca group	6, 8
Lecidiaatrobrunnea		7
Lecidea	cf lactea	11
Lecidea	tessellata	2, 6, 7, 8, 11, 12
Lecidella	sp	1, 3, 8, 10, 11, 14
Lepraria	sp	2, 8, 9, 10, 11, 14
Leptogium	arsenei	8
Letharia	vulpina	8
Lichinella	sp	2, 6, 7, 14, 15
Lobothallia	alphoplaca	6, 8
Lobothallia	praeradiosa	2, 3, 5, 6, 7, 8, 15, 16
Lobothallia	radiosa	2
Melanelia	disjuncta	4, 9
Melanelia	elegantula	4, 5, 6, 8, 11, 14
Melanelia	exasperatula	8, 11
Melanelia	panniformis	9
Melanelia	subolivacea	3, 4, 5, 6, 8, 9, 11,
Mycobilimbia	sp	1
Ochrolechia	sp	8
Peltigera	rufescens	5, 11
Peltula	cf farinosa	3
Peltula	obscurans	2, 5, 14
Peltula obscurans	var. hassei	3, 14
Peltula obscurans	var. cf deserticola	16
Pertusaria	saximontana	3
Phaeophyscia	hirsuta	4, 5
Phaeophyscia	sciastra	8
Physcia	adscendens	4
Physcia	aipola	8
Physcia	biziana	4, 8, 11
Physcia	caesia	4, 6, 8, 11

Physcia	cf clementei	11
Physcia	cf halei	8
Physcia	cf musigena	11
Physcia	cf nashii	3
Physcia	cf sinuosa	17
Physcia	dimidiata	1, 2, 4, 5, 6, 8, 11, 14, 17
Physcia	dubia	5, 8
Physcia	erumpens	8
Physcia	phaea	8
Physcia	sorediosa	6
Physcia	stellaris	4, 5, 8, 10, 11
Physcia	undulata	1, 2, 4, 8, 9
Physconia	muscigena	8
Placidium	lacunculatum	3, 5, 14, 15
Placomaronea	sp	8
Placopyrenium	sp	6
Placynthium	sp	2
Pleopsidium	chlorophana	11
Psora	cerebriformis	3
Psora	cf globosa	6
Psora	crenata	3, 6, 14, 15
Psora	decipiens	1, 3, 5, 6, 12, 14
Psora	niponica	10, 11
Psora	tuckermanii	2, 6
Psorotichia	sp	2
Rhizocarpon	disporum	5, 7, 8, 9, 10, 11
Rhizocarpon	geographicum s.e.	11
Rhizoplaca	chrysoleuca	8, 9, 10
Rhizoplaca	melanophthalma	2, 3, 8, 9, 10, 11
Rhizoplaca	peltata	2, 8, 10, 11
Rinodina	cf zwichiana?	1
Sarcogyne	regularis?	16
Spilonema	revertens	10
Staurothele	areolata	1, 2, 3, 5, 6, 8, 11, 12, 14, 16, 17
Staurothele	cf verruculosa	3
Staurothele	drummondii	2, 3, 7, 8, 12, 16, 17
Staurothele	elenkinii	6
Toninia	candida	2, 6, 17
Toninia	cf ruginosa	5
Toninia	sedifolia	2, 3, 5, 6
Trapeliopsis	granulosa	1
Trapeliopsis	flexuosa	8
Umbilicaria	torrefacta	10
Usnea	hirta	8
Verrucarria	plumosa	6
Xanthomendoza	fallax	1, 3, 4, 5, 7, 8, 9, 11, 14, 17

Xanthomendoza	montana	2, 3, 4, 6, 7, 8, 9, 11, 14, 16
Xanthomendoza	ulophyllodes	3, 8, 11, 14
Xanthoparmelia	coloradoensis	8, 10, 11
Xanthoparmelia	conspersa	10
Xanthoparmelia	cumberlandia	10
Xanthoparmelia	dierythra	15
Xanthoparmelia	lineola	2, 3, 6, 8, 9, 10, 11, 15
Xanthoparmelia	mexicana	6, 15
Xanthoparmelia	plittii	8
Xanthoparmelia	subdecipiens	5
Xanthoparmelia	subplitti	9
Xanthoria	elegans	2, 4, 6, 7, 8, 10, 11, 16, 17
Xanthoria	sorediata	6, 11
Xanthoria	tenax	17

Location #:	microhabitat	habitat	collection date	country	state	county	location	coordinates								elevation in m
1		pinon juniper woodland	May 20, 2003	USA	Arizona	Mohave	along Forest Service Rd 101, Grand Canyon Parashant National Monument	36	40	39	N	113	37	35	W	1557
2	North facing limestone cliff	Pinon juniper woodland	May 20, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	41	46	N	113	41	31	W	1507
3	Sandstone bluff	pinon juniper woodland	May 20, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	40	41	N	113	37	52	W	1504
4		gambel oak grove (small)	May 21, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	8	49	N	113	34	57	W	1779
5		pinon juniper woodland	May 21, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	6	8	N	113	36	38	W	1809
6		pinon juniper woodland	May 21, 2003	USA	Arizona	Mohave	Above n rim of Grand Canyon – Twin Creeks, Grand Canyon Parashant National Monument	36	5	35	N	113	36	36	W	1809
7		pinon juniper woodland	May 21, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	22	24	N	113	32	6	W	1746
8	North facing slope	Pinon juniper pine oak woodland	May 21, 2003	USA	Arizona	Mohave	North side of Mt. Trumbull; aqueduct trail. Grand Canyon Parashant National Monument	36	25	36	N	113	07	42	W	1876
9	edge of lava flow near spring	pine, oak and juniper forest	May 23, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	22	44	N	113	10	12	W	2004
10	edge of lava flow	pine, oak and juniper forest	May 23, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	22	43	N	113	09	47	W	2023
11	W slope of Mt. Logan	Pine oak & juniper forest	May 23, 2003	USA	Arizona	Mohave	Mt. Logan, Grand Canyon Parashant National Monument	36	21	43	N	113	11	48	W	2228
12		pinon juniper woodland transition to scrub	May 24, 2003	USA	Arizona	Mohave	ca 5km north of Grand Canyon Parashant National Monument	36	49	05	N	113	11	49	W	1463
13	n face canyon cliff	pinon juniper woodland transition to scrub	May 25, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument	36	28	09	N	113	39	18	W	1455
14		pinon juniper woodland transition to scrub	May 25, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument, Mohave County, AZ	36	33	14	N	113	45	31	W	1098

15	scrub in canyon	Mohave desert/semidesert grassland	May 25, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument, Mohave County, AZ	36	32	39	N	113	47	18	W	1023
16		Mohave desert	May 25, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument, Mohave County, AZ	36	22	06	N	113	47	11	W	597
17	n face canyon cliff	pinyon juniper woodland transition to scrub	May 26, 2003	USA	Arizona	Mohave	Grand Canyon Parashant National Monument, Mohave County, AZ	36	27	44	N	113	36	58	W	1623