



Herbarium Reviews for Four Parks in the Southern Colorado Plateau Network

Natural Resource Technical Report NPS/SCPN/NRTR—2010/316



ON THE COVER

An herbarium specimen collected at Aztec Ruins National Monument.

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Mar-Elise Hill
Glenn Rink
Tina Ayers

Northern Arizona University
South San Francisco Street
Flagstaff, Arizona 86011

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The corresponding author for this project is Mar-Elise Hill (Mar-Elise.Hill@azwestern.edu).

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Abstract

Since herbarium specimens are the primary form of evidence for the occurrence of vascular plant species in national park units, accurate specimen information must be maintained in the service-wide database for species documentation in national parks, NPSpecies. This project accessioned, cataloged, verified taxonomy, and databased all herbarium specimens at four national parks in New Mexico: Aztec Ruins National Monument, El Malpaís National Monument, El Morro National Monument, and Salinas Pueblo Missions National Monument. All park specimens housed at park herbaria and at the University of New Mexico herbarium (UNM), New Mexico State University herbarium (NMC), and San Juan College herbarium (SJNM) were included in this study. A total of 1,223 park specimens were verified and databased in NPSpecies as a result of this project. Of these specimens, 17% received nomenclature updates, and 11% were annotated (identified as another species).

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Introduction

Since herbarium specimens are the primary form of evidence for vascular plant species occurrence in national park units, accurate specimen information must be maintained in the service-wide database for documenting species in national parks, NPSpecies. In this project, we accessioned, cataloged, verified, and databased all herbarium specimens taken from four national parks: Aztec Ruins National Monument, El Malpaís National Monument, El Morro National Monument, and Salinas Pueblo Missions National Monument. This project inventoried all park specimens that were housed in the park herbaria and in the herbaria of the University of New Mexico (UNM), New Mexico State University (NMC), and San Juan College (SJNM). For the specimens in the park herbaria, we first checked all the specimen information for accuracy in ANCS+ (National Park Service database for museum specimens). For specimens housed at the UNM, NMC, and SJNM herbaria, we searched the records for specimens from the four parks and then checked the specimens for accuracy. Once all the specimen information was checked and corrected, we entered the data into a database compatible with NPSpecies.

Methods

Herbarium curation

We curated all herbarium specimens according to the following steps. First, we used standard floras and manuals to identify specimens to the lowest taxonomic level possible. When necessary, we updated correctly identified specimens to the current nomenclature, following ITIS (Integrated Taxonomic Information System). We also corrected specimens that had been incorrectly identified. We glued an annotation label with all updates, including the corrected or updated species name, the identifier, and the date, to the herbarium sheet.

Databasing

Park herbaria

The NPS provided the ANCS+ databases for each park herbaria in Microsoft Access format. We recorded the number of speci-

mens in the ANCS+ and in the UNM, NMC, and SJNM herbaria and compared that number with the number of specimens that we actually found in the herbaria. At Aztec Ruins NM, no specimens had been entered into the ANCS+ database, so the estimated number of specimens in the herbaria came from park staff. At each park, we either entered or checked for accuracy with the actual specimen label all the specimen information. When information was absent from the specimen label, we entered “Not Provided” into the appropriate field in the database. We accessioned and cataloged specimens as necessary, and we noted the problems and discrepancies that we encountered while checking the accuracy of the specimen information. We created Excel spreadsheets of each verified and completed herbarium database. This information will be transferred back to the ANCS+ database. Table 1 describes all the fields in the databases. We curated and databased all the specimens in the park herbaria.

UNM, NMC, and SJNM herbaria

We searched for park specimens in the UNM and NMC herbaria databases by using the online search engine New Mexico Biodiversity Collections Consortium (<http://nmbiodiversity.org>). This search was done on July 1, 2006. We used the park name as the search term, and we downloaded the resulting data into a Microsoft Access format database. We matched the datafields from New Mexico Biodiversity Collection Consortium to the datafields of ANCS+. For both the UNM and NMC herbaria, we checked all park specimen information for accuracy with the actual specimen label. When information was absent from the specimen label, we entered “NP” or “UNKNOWN” into the field. We accessioned and cataloged specimens as necessary. Finally, we created Excel spreadsheets of each verified and completed herbarium database, which will later be transferred into the ANCS+ database.

At SJNM, the San Juan College Herbarium Curatorial Assistant queried the herbaria database for us. We downloaded the data into an Access format database, and we matched the datafields from this download

Table 1. Information fields required for compatibility with NPSpecies database.

Field	Data type	Character length	Description
ParkCode	Text	4	Four letter park code (see list of accepted codes)
TSN	Number		ITIS taxonomic serial number
DocLatinName	Text	255	Documented scientific name of species in the original records when it was collected
Date	Date		Date of collection
Observer	Text	255	Name of collector
ObserverNumber	Text	255	Field collection number provided by collector, if available
Habitat	Memo		Concise description of habitat where collection was made, if available
Elevation	Number		Elevation where collection was made
ElevationUnits	Text	20	Units for elevation (feet or meters)
SpecimenID	Text	255	NPS catalog number of specimen
SpecimenLocation	Text	255	Name and location of institution at which specimen is located
Location	Text	255	Concise description of collection site within the park
X_coord	Number		X coordinate of collection site , if available
Y_Coord	Number		Y coordinate of collection site, if available
CoordSystem	Text	25	Coordinate system of x and y coordinates (Lat/lon, UTM, etc)
Datum	Text	10	Datum of coordinates, if known (NAD27, NAD83, WGS84)

to the datafields of ANCS+ (see table 1 for the fields). We verified and identified all the specimens in the same way as for the UNM and NMC herbaria.

Results

Herbarium curation

We curated and databased a total of 1,223 specimens—only 57% of the expected number of specimens. Across all parks, an average 17% of all specimens required nomenclatural updates, with a range between 10-22%. An average 11% of all specimens had been misidentified, with a range between 9-18%. Table 2 provides a breakdown of expected specimens to actual specimens and counts of nomenclatural and annotation updates by park. Appendix A provides tables of all the updated and annotated (species whose identification was corrected) specimens arranged by park.

Park herbaria

We found a total of 796 specimens in the El Malpaís, El Morro, and Salinas Pueblo

Missions park herbaria—only 50% of the expected number of specimens, based on the number of specimens in the ANCS+ database. At El Malpaís, El Morro, and Salinas Pueblo Missions, we found 394, 369, and 33 specimens, respectively. Although Salinas Pueblo Missions has the smallest plant collection, it required the most curation: 36% of the collection needed nomenclatural updates and 24% of the collection had to be re-identified. See tables 3-6 for a breakdown of expected specimens to actual specimens for the specimens located at each herbarium collection for each park. There are currently no specimens housed on site at Aztec Ruins NM.

UNM, NMC, and SJNM herbaria

We found a total of 427 Aztec Ruins, El Malpaís, El Morro, and Salinas Pueblo Missions park specimens at the UNM, NMC, and SJNM herbaria—79% of the expected number of specimens. The UNM herbarium housed specimens from all four parks with a total of 310 specimens. We added to the ANCS+ database 85% of the expected specimens from UNM during this survey.

Table 2. Number of specimens curated, updated, and annotated at each park.

	AZRU	ELMA	ELMO	SAPU	Total
Expected # of specimens	420	577	840	315	2152
Actual # of specimens	19	402	599	203	1223
Nomenclatural updates	4	41	133	26	204
Annotations	2	43	55	31	131
Updated (%)	21	10	22	13	17
Annotated (%)	11	18	9	15	11

Note: AZRU = Aztec Ruins National Monument, ELMA = El Malpaís National Monument, ELMO = El Morro National Monument, and SAPU = Salinas Pueblo Missions National Monument.

Table 3. Number of specimens curated, updated, and annotated at Aztec Ruins National Monument.

	Park herbarium	UNM	NMC	SJNM	Total
Expected # of specimens	400	20	0	0	420
Actual # of specimens	0	19	0	0	19
Nomenclatural updates	0	4	0	0	4
Annotations	0	2	0	0	2
Updated (%)	0	21	0	0	21
Annotated (%)	0	11	0	0	11

Note: UNM = University of New Mexico Herbarium, NMC = New Mexico State University Herbarium, SJNM = San Juan College Herbarium

Table 4. Number of specimens curated, updated, and annotated at El Malpaís National Monument.

	Park herbarium	UNM	NMC	SJNM	Total
Expected # of specimens	542	35	0	0	577
Actual # of specimens	394	8	0	0	402
Nomenclatural updates	37	4	0	0	41
Annotations	42	1	0	0	43
Updated (%)	9	50	0	0	10
Annotated (%)	11	13	0	0	18

Note: UNM = University of New Mexico Herbarium, NMC = New Mexico State University Herbarium, SJNM = San Juan College Herbarium

Table 5. Number of specimens curated, updated, and annotated at El Morro National Monument.

	Park herbarium	UNM	NMC	SJNM	Total
Expected # of specimens	585	239	16	0	840
Actual # of specimens	369	214	16	0	599
Nomenclatural updates	93	38	2	0	133
Annotations	35	18	2	0	55
Updated (%)	25	18	13	0	22
Annotated (%)	9	8	13	0	9

Note: UNM = University of New Mexico Herbarium, NMC = New Mexico State University Herbarium, SJNM = San Juan College Herbarium

Table 6. Number of specimens curated, updated, and annotated at Salinas Pueblo Missions National Monument.

	Park herbarium	UNM	NMC	SJNM	Total
Expected # of specimens	87	69	0	159	315
Actual # of specimens	33	69	0	101	203
Nomenclatural updates	12	2	0	12	26
Annotations	8	5	0	18	31
Updated (%)	36	3	0	12	13
Annotated (%)	24	7	0	18	15

Note: UNM = University of New Mexico Herbarium, NMC = New Mexico State University Herbarium, SJNM = San Juan College Herbarium

Of the 53 expected UNM specimens that we did not database, 24 specimens had been taken outside park boundaries, and we did not find the other 29 in the herbarium. The NMC herbarium housed 16 specimens from El Morro and 8 specimens from El Malpaís. We found all the expected NMC specimens during this survey. The SJNM herbarium housed 101 specimens from Salinas Pueblo Missions—64% of the expected number of specimens. We did not find 58 expected SJNM specimens during this survey. Appendix B lists all expected park specimens that were either taken outside of park boundaries or were not found at the UNM and SJNM herbaria.

El Malpaís park collections housed at UNM received the greatest level of curation among park collections at the UNM, NMC, and SJCM herbaria: 50% of the collection needed nomenclatural updates and 13% of

the collection needed re-identification.

All the other park collections housed at the UNM, NMC, and SJCM herbaria received comparable amounts of curation, with nomenclatural updates ranging from 3 to 20% of the entire collection and annotation updates ranging from 7 to 18% of the collection (tables 3-6).

Databasing

We noted the following problems for the park herbarium ANCS+ databases:

Aztec Ruin National Monument:

- No ANCS+ database for Aztec Ruins existed before this project.

El Malpaís National Monument:

- County names needed to be updated in all records where applicable.

- 18 plant specimens in the ANCS+ database were not found during this herbarium search
- 144 animal and fungus (mostly lichen) specimens were included in the ANCS+ download.

El Morro National Monument:

- County names needed to be updated in all records where applicable.

Salinas Pueblo Missions National Monument:

- County names were missing from all records.

We added all specimens from the UNM, NMC, and SJNM herbaria to ANCS+ as new records.

Discussion

This project verified the identification of and databased a total of 1,223 herbarium specimens from four national parks in the Southern Colorado Plateau Network.

We found only 57% of the expected specimens during this project, mainly for two reasons. First, park staff had estimated that around 600 unprocessed specimens from Aztec Ruins and El Morro National Monuments were being stored at Deaver Herbarium at Northern Arizona University. However, we only found half of the 600 specimens at Deaver Herbarium. We reviewed these specimens and determined that they were either unidentifiable or of minimal value in documenting the floras of Aztec Ruins and El Morro; therefore we did not process any of these specimens into the park herbaria, nor did we add them to the ANCS+ database. Second, the estimate for expected herbarium specimens and ANCS+ data downloads prior to the start of this project included taxa that are not vascular plants; for example the ANCS+ database for El Malpaís included 144 animal and fungus collections. The expected specimens at Deaver Herbarium and the overestimate of vascular plant specimens in ANCS+ account

for approximately 818 specimens or 88% of expected specimens that were not found during this project.

At the UNM herbarium there were a total of 53 expected specimens that we did not add to the ANCS+ database. These specimens were in the search results for specimens from the New Mexico Biodiversity Collection Consortium, but on closer inspection of the collection information, we determined that 23 specimens from El Malpaís NM and 1 specimen from El Morro NM were from outside the current park boundaries. We did not find 29 of the specimens at all. One of these specimens was from Aztec Ruins, 4 specimens were from El Malpaís, and 24 were specimens from El Morro (appendix B). These specimens may have been misfiled or had an annotation that was not reflected in the database; in either case locating the actual specimen would have been difficult.

At the SJNM herbarium, we did not find all of 58 expected specimens (appendix B). Again, these specimens may have been misfiled or had an annotation that was not reflected in the herbarium database. It is also possible that some of these collections were out on loan.

Because this project verified and/or updated the taxonomy of the herbarium specimens, future nomenclature updates should require less work. The future work would require running an update query on the data from the ANCS+ database, annotating herbarium labels, and re-filing, as appropriate. Because botanical taxonomy is continually changing and park herbaria will likely receive future specimens in accordance with collection permits, these future specimens will create a work need similar to the scope of this project. We therefore advise that a botanist be hired to update nomenclature and verify the identification of new specimens on a regular basis. This way, the quality of the park herbaria itself and both the ANCS+ and NPSpecies database would be maintained. The quality of the NPSpecies database is particularly important as it may help increase the use of the NPS herbarium specimens.

Appendix A: Updates and Annotations to Specimens

Appendix A contains four tables that detail all the updates and annotations made to herbarium specimens during this review. The tables are arranged by park. The abbreviation “Np” stands for “Not Provided”. The specimens in these tables were located at either the University of New Mexico Herbarium (UNM), the NMC Herbarium at New Mexico State University, the San Juan College Herbarium (SJNM), or one of the park herbariums at El Malpaís National Monument, El Morro National Monument, or Salinas Pueblo Missions National Monument.

Park	Table	Pages
Aztec Ruins National Monument	A1	8
El Malpaís National Monument	A2	9–13
El Morro National Monument	A3	14–25
Salinas Pueblo Missions National Monument	A4	26–29

Table A1. Updated and annotated herbarium specimens for Aztec Ruins National Monument.

Accession #	Catalog #	Collec- tion #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/ annotated
AZRU-327	AZRU 144432	sn	2001	Asteraceae	<i>Artemisia spinescens</i> : <i>Picrothamnus desertorum</i>	519062	UNM	Rink, Glenn	5/2007	U
AZRU-327	AZRU 144435	9199	8/6/1954	Asteraceae	<i>Tetradymia</i> : <i>Tetradymia canescens</i>	38494	UNM	Rink, Glenn	5/2007	U
AZRU-327	AZRU 144445	11030	4-19-1947	Fumariaceae	<i>Corydalis aurea</i> : <i>Corydalis curvisiliqua</i> ssp. <i>occidentalis</i>	525523	UNM	Rink, Glenn	5/2007	A
AZRU-327	AZRU 144447	11033	4/19/1947	Poaceae	<i>Poa fendleriana</i> : <i>Poa fendleriana</i> ssp. <i>longiligula</i>	526423	UNM	Rink, Glenn	5/2007	U

Table A2. Updated and annotated herbarium specimens for El Malpais National Monument.

Accession #	Cata- log #	Collec- tion		Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
		Collec- tion #	date							
ELMA-00024	ELMA 2861	NPPO-P4	8/25/1993	Amaranthaceae	<i>Amaranthus retroflexus</i> : <i>Amaranthus palmeri</i>	20745	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2606	SABL-P87	4/20/1992	Apiaceae	<i>Cymopterus acaulis</i> : <i>Cymopterus acaulis</i> var. <i>fendleri</i>	29628	ELMA Cab02	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2177	BLTT-P37	9/18/1991	Asteraceae	<i>Chrysothamnus nauseosus</i> var. <i>consimilis</i> : <i>Ericameria nauseosa</i> ssp. <i>consimilis</i>	525039	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2085	CO42-P12	8/15/1991	Asteraceae	<i>Achillea millefolium</i> ssp. <i>occidentalis</i> : <i>Achillea millefolium</i> var. <i>occidentalis</i>	526856	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00072	ELMA 488	542	17 Aug 1986	Asteraceae	<i>Ageratina herbacea</i> : <i>Ageratina herbacea</i>	36469	UNM	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2455	SEPT-P1	9/10/1992	Asteraceae	<i>Ambrosia artemisiifolia</i> : <i>Ambrosia acanthicarpa</i>	36496	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2905	2330	8/22/1996	Asteraceae	<i>Anaphalis margaritacea</i> : <i>Pseudognaphalium pringlei</i>	36529	ELMA Cab02	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2833	NOSR-P14	7/8/1992	Asteraceae	<i>Artemisia campestris</i> ssp. <i>pacifica</i> : <i>Artemisia campestris</i> ssp. <i>borealis</i> var. <i>scouleriana</i>	531553	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2084	CO42-P32	9/19/1991	Asteraceae	<i>Aster falcatus</i> ssp. <i>commutatus</i> : <i>Symphiotrichum falcatum</i> var. <i>commutatum</i>	566331	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2043	POS-43	9/30/1992	Asteraceae	<i>Chrysothamnus nauseosus</i> ssp. <i>bigelovii</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>bigelovii</i>	531864	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00072	ELMA 494	541	17 Aug. 1986	Asteraceae	<i>Chrysothamnus nauseosus</i> ssp. <i>speciosus</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>speciosa</i>	531874	UNM	Rink, Glenn	5/2007	U
ELMA-00024	ELMA 2329	HAFF-P10	7/10/1991	Asteraceae	<i>Chrysothamnus parryi</i> var. <i>attenuatus</i> : <i>Ericameria parryi</i> var. <i>attenuata</i>	531194	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2050	POS-50	8/25/1993	Asteraceae	<i>Chrysothamnus viscidiflorus</i> ssp. <i>lanceolatus</i> : <i>Chrysothamnus viscidiflorus</i> ssp. <i>viscidiflorus</i>	37094	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2044	POS-44	9/30/1992	Asteraceae	<i>Chrysothamnus viscidiflorus</i> ssp. <i>stenophyllus</i> : <i>Chrysothamnus viscidiflorus</i> ssp. <i>viscidiflorus</i> var. <i>stenophyllus</i>	531602	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2666	OARD-P41	9/1/1991	Asteraceae	<i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>nauseosa</i>	531871	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2433	LACR-P2	8/14/1992	Asteraceae	<i>Erigeron speciosus</i> : <i>Erigeron speciosus</i> var. <i>macranthus</i>	35950	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2797	NOPA-P24	5/28/1992	Asteraceae	<i>Erigeron vetensis</i> : <i>Erigeron concinnus</i> var. <i>concinnus</i>	38604	ELMA Cab01	Rink, Glenn	8/2006	A

Table A2, continued. Updated and annotated herbarium specimens for El Malpais National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMA-00024	ELMA 2083	CO42-P5	8/15/1991	Asteraceae	<i>Grindelia aphanactis</i> : <i>Grindelia nuda</i> var. <i>aphanactis</i>	528284	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2255	HOYK-P1	6/23/1992	Asteraceae	<i>Heliomeris multiflora</i> : <i>Heliomeris multiflora</i> var. <i>nevadensis</i>	37603	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2238	IRIS-P16	6/4/1992	Asteraceae	<i>Hymenoxys argentea</i> : <i>Tetranneuris argentea</i>	38509	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2038	POS-38	8/18/1992	Asteraceae	<i>Machaeranthera australis</i> : <i>Machaeranthera pinnatifida</i> ssp. <i>pinnatifida</i> var. <i>pinnatifida</i>	531712	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2569	SABL-P2	8/20/1991	Asteraceae	<i>Machaeranthera linearis</i> : <i>Machaeranthera canescens</i> ssp. <i>glabra</i> var. <i>glabra</i>	531706	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2034	POS-34	8/18/1992	Asteraceae	<i>Senecio douglasii</i> var. <i>longilobus</i> : <i>Senecio flaccidus</i> var. <i>flaccidus</i>	530313	ELMA Cab02	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2457	SEPT-P3	9/10/1992	Asteraceae	<i>Senecio multicapitatus</i> : <i>Senecio spartioides</i> var. <i>multicapitatus</i>	531525	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2178	ALBA-P3	5/20/1992	Asteraceae	<i>Senecio multilobatus</i> : <i>Packera multilobata</i>	518150	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00072	ELMA 493	248	9 June 1986	Asteraceae	<i>Senecio multilobatus</i> : <i>Packera multilobata</i>	518150	UNM	Rink, Glenn	5/2007	U
ELMA-00072	ELMA 492	295	20 June 1986	Asteraceae	<i>Senecio multilobatus</i> : <i>Packera multilobata</i>	518150	UNM	Rink, Glenn	5/2007	U
ELMA-00024	ELMA 2004	POS-4	5/12/1992	Asteraceae	<i>Senecio neomexicanus</i> var. <i>mutabilis</i> : <i>Packera neo-mexicana</i> var. <i>mutabilis</i>	526299	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2201	CEBA-P6	7/18/1991	Asteraceae	<i>Stephanomeria pauciflora</i> var. <i>pauciflora</i> : <i>Stephanomeria pauciflora</i>	38451	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2332	MEBL-P117	9/29/1993	Asteraceae	<i>Tagetes papposa</i> : <i>Dyssodia papposa</i>	37263	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2452	TW53-P2	6/4/1992	Berberidaceae	<i>Mahonia haematocarpa</i> : <i>Mahonia fremontii</i>	195034	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2470	ZATH-P34	6/9/1992	Boraginaceae	<i>Cryptantha crassise-pala</i> : <i>Cryptantha crassise-pala</i> var. <i>elacantha</i>	527560	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2729	OLBA-P6	6/23/1992	Boraginaceae	<i>Lappula redowskii</i> : <i>Lappula occidentalis</i> var. <i>occidentalis</i>	528678	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2453	TRIA-P8	5/20/1992	Brassicaceae	<i>Arabis fendleri</i> var. <i>fendleri</i> : <i>Arabis perennans</i>	184331	ELMA Cab01	Rink, Glenn	8/2006	A

Table A2, continued. Updated and annotated herbarium specimens for El Malpaís National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMA-00024	ELMA 2116	BSLC-P23	4/13/1992	Brassicaceae	<i>Arabis fendleri</i> var. <i>spatifolia</i> : <i>Arabis perennans</i>	184334	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2002	POS-2	5/6/1992	Brassicaceae	<i>Arabis perennans</i> : <i>Arabis fendleri</i> var. <i>fendleri</i>	22720	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2246	ICEP-P1	7/22/1992	Brassicaceae	<i>Descurainia obtusa</i> ssp. <i>brevisiliqua</i> : <i>Descurainia obtusa</i> ssp. <i>obtusata</i>	22823	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2006	POS-6	5/20/1992	Brassicaceae	<i>Descurainia richardsonii</i> ssp. <i>incisa</i> : <i>Descurainia incana</i> ssp. <i>incisa</i>	523967	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2851	CAPO-P8	7/23/1992	Brassicaceae	<i>Thelepodiopsis linearifolia</i> : <i>Schoenocrambe linearifolia</i>	195791	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2447	MTKI-P3	4/20/1992	Brassicaceae	<i>Thlaspi montanum</i> : <i>Thlaspi montanum</i> var. <i>fendleri</i>	530667	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2794	NOPA-P18	8/27/1991	Chenopodiaceae	<i>Ceratoides lanata</i> : <i>Krascheninnikovia lanata</i>	503290	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2674	OARD-P42	8/13/1992	Cupressaceae	<i>Juniperus deppeana</i> var. <i>pachyphloea</i> : <i>Juniperus deppeana</i>	194834	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2485	ZAKI-P11	6/9/1992	Euphorbiaceae	<i>Chamaesyce fendleri</i> var. <i>chaetocalyx</i> : <i>Chamaesyce chaetocalyx</i> var. <i>chaetocalyx</i>	531340	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2809	NOPA-P21	5/28/1992	Euphorbiaceae	<i>Euphorbia lurida</i> : <i>Euphorbia brachycera</i>	28049	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2484	ZAKI-P14	6/9/1992	Fabaceae	<i>Astragalus calycosus</i> var. <i>scaposus</i> : <i>Astragalus calycosus</i> var. <i>calycosus</i>	192392	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2224	BACR-P33	8/13/1992	Fabaceae	<i>Phaseolus angustissimus</i> var. <i>latus</i> : <i>Phaseolus angustissimus</i>	26843	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2810	NOPA-P22	5/28/1992	Fabaceae	<i>Psoralea lanceolata</i> : <i>Psoralea lanceolata</i>	504645	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2435	LACR-P4	8/14/1992	Fabaceae	<i>Psoralea tenuiflora</i> var. <i>bigelovii</i> : <i>Psoralea tenuiflora</i>	504646	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2427	LOWO-P2	5/13/1992	Fabaceae	<i>Thermopsis rhombifolia</i> var. <i>montana</i> : <i>Thermopsis divaricata</i>	531367	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00072	ELMA 487	0137	21 June 1991	Grossulariaceae	<i>Ribes cereum</i> : <i>Ribes cereum</i> var. <i>pedicellare</i>	530048	UNM	Rink, Glenn	5/2007	A
ELMA-00024	ELMA 2205	CAND-P6	7/25/1992	Hydrophyllaceae	<i>Phacelia serrata</i> : <i>Phacelia integrifolia</i>	31595	ELMA Cab01	Rink, Glenn	8/2006	A

Table A2, continued. Updated and annotated herbarium specimens for El Malpais National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMA-00024	ELMA 2436	LACR-P3	8/14/1992	Liliaceae	<i>Anthericum flavescens</i> : <i>Echeandia flavescens</i>	502198	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2217	BACR-P24	7/17/1991	Loasaceae	<i>Mentzelia pumila</i> : <i>Mentzelia multiflora</i>	503800	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2331	MEBL-P10	8/15/1991	Nyctaginaceae	<i>Mirabilis diffusa</i> : <i>Mirabilis linearis</i>	19651	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2330	MEBL-P19	8/15/1991	Nyctaginaceae	<i>Mirabilis linearis</i> : <i>Mirabilis glabra</i>	19651	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2592	SABL-P96	9/16/1992	Oleaceae	<i>Forestiera neomexicana</i> : <i>Forestiera pubescens</i> var. <i>pubescens</i>	528175	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2017	POS-17	8/7/1992	Onagraceae	<i>Gaura parviflora</i> : <i>Gaura mollis</i>	565206	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2677	OARD-P19	6/4/1992	Onagraceae	<i>Oenothera caespitosa</i> var. <i>marginata</i> : <i>Oenothera caespitosa</i>	566061	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2590	SABL-P76	5/28/1992	Orobanchaceae	<i>Orobancha uniflora</i> : <i>Orobancha fasciculata</i>	34290	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2808	NOPA-P17	8/27/1991	Poaceae	<i>Andropogon gerardii</i> var. <i>paucipilus</i> : <i>Andropogon hallii</i>	182530	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2718	PRWE-P2	6/2/1992	Poaceae	<i>Elymus longifolius</i> : <i>Elymus elymoides</i> ssp. <i>brevifolius</i>	525111	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2467	ZATH-P53	6/9/1992	Poaceae	<i>Elymus smithii</i> : <i>Pascopyrum smithii</i>	504124	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2587	SABL-P59	8/20/1991	Poaceae	<i>Eragrostis lehmanniana</i> : <i>Eragrostis curvula</i>	565171	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2584	SABL-P25	8/20/1991	Poaceae	<i>Onyzopsis hymenoides</i> : <i>Achnatherum hymenoides</i>	507943	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2445	NACO-P39	6/16/1992	Poaceae	<i>Onyzopsis micrantha</i> : <i>Piptatherum micranthum</i>	507991	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2802	NOPA-P4	8/22/1991	Poaceae	<i>Panicum capillare</i> var. <i>brevifolium</i> : <i>Panicum capillare</i>	40914	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2482	ZAKI-P12A	6/9/1992	Poaceae	<i>Stipa comata</i> : <i>Hesperostipa comata</i> ssp. <i>comata</i>	525116	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2481	ZAKI-P12B	6/9/1992	Poaceae	<i>Stipa neomexicana</i> : <i>Hesperostipa neomexicana</i>	507976	ELMA Cab01	Rink, Glenn	8/2006	U

Table A2, continued. Updated and annotated herbarium specimens for El Malpaís National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMA-00024	ELMA 2581	SABL-P54A	9/19/1991	Poaceae	<i>Stipa scribneri</i> : <i>Achnatherum scribneri</i>	507957	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2179	CJPA-P2	6/4/1992	Polemoniaceae	<i>Microsteris gracilis</i> : <i>Phlox gracilis</i>	31309	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2036	POS-36	8/18/1992	Polygonaceae	<i>Polygonum ramosissimum</i> : <i>Polygonum douglasii</i>	20921	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2437	LACR-P5	8/13/1992	Polygonaceae	<i>Rumex triangulivalvis</i> : <i>Rumex salicifolius</i> var. <i>mexicanus</i>	530197	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2439	NATH-P5	6/17/1992	Primulaceae	<i>Androsace septentrionalis</i> var. <i>glandulosa</i> : <i>Androsace septentrionalis</i> ssp. <i>glandulosa</i>	182008	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2906	2332	8/22/1996	Pteridaceae	<i>Pellaea glabella</i> ssp. <i>simplex</i> : <i>Pellaea atropurpurea</i>	524433	ELMA Cab02	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2175	BLTT-P24	7/30/1991	Rosaceae	<i>Potentilla hippiana</i> var. <i>hippiana</i> : <i>Potentilla crinita</i>	529827	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2273	HOYK-P1	8/14/1991	Rosaceae	<i>Rubus idaeus</i> ssp. <i>strigosus</i> : <i>Rubus aliceae</i>	524636	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2254	HOYK-P3	6/23/1992	Rosaceae	<i>Rubus idaeus</i> ssp. <i>strigosus</i> : <i>Rubus aliceae</i>	524636	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2032	POS-32	8/13/1992	Salicaceae	<i>Populus deltoides</i> ssp. <i>wislizeni</i> : <i>Populus fremontii</i>	524563	ELMA Cab01	Rink, Glenn	8/2006	A
ELMA-00024	ELMA 2003	POS-3	5/6/1992	Ulmaceae	<i>Celtis reticulata</i> : <i>Celtis laevigata</i> var. <i>reticulata</i>	527226	ELMA Cab01	Rink, Glenn	8/2006	U
ELMA-00024	ELMA 2407	MARC-P51	7/3/1991	Verbenaceae	<i>Glandularia bipinnatifida</i> var. <i>ciliata</i> : <i>Glandularia wrightii</i>	502798	ELMA Cab01	Rink, Glenn	8/2006	A

Table A3. Updated and annotated herbarium specimens for El Morro National Monument.

Accession #	Catalog #	Collection #	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00024	ELMO 384	427	Apiaceae	<i>Cymopterus purpurascens: Cymopterus bulbosus</i>	29631	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2124	425	Apiaceae	<i>Cymopterus purpurascens: Cymopterus bulbosus</i>	29631	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2264	429	Apiaceae	<i>Cymopterus purpurascens: Cymopterus bulbosus</i>	29631	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 345	sn	Asteraceae	<i>Achillea lanulosa: Achillea millefolium</i> var. <i>occidentalis</i>	526856	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1837	81	Asteraceae	<i>Achillea lanulosa: Achillea millefolium</i> var. <i>occidentalis</i>	526856	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1841	16	Asteraceae	<i>Artemisia dracunculoides pursh: Artemisia dracunculus</i>	35462	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2447	KL17	Asteraceae	<i>Artemisia dracunculoides: Artemisia dracunculus</i>	35462	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1845	14	Asteraceae	<i>Artemisia pacifica: Artemisia campestris</i>	183748	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2462	KL14	Asteraceae	<i>Artemisia pacifica: Artemisia campestris</i> ssp. <i>borealis</i> var. <i>scouleriana</i>	531553	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2484	562	Asteraceae	<i>Bahia neomexicana: Schkuhria multiflora</i>	38362	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1848	561	Asteraceae	<i>Bahia neomexicana: Schkuhria multiflora</i>	38362	ELMO SH 02	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2432	607	Asteraceae	<i>Brickellia grandiflora</i> var. <i>grandiflora: Brickellia</i>	36878	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1849	608	Asteraceae	<i>Brickellia grandiflora</i> var. <i>grandiflora: Brickellia grandiflora</i>	36878	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1850	28	Asteraceae	<i>Chrysopsis canescens: Heterotheca canescens</i>	37658	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2483	EK27	Asteraceae	<i>Chrysopsis canescens: Heterotheca villosa</i> var. <i>villosa</i>	528399	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2453	833	Asteraceae	<i>Chrysothamnus baileyi: Chrysothamnus depressus</i>	37051	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2444	834	Asteraceae	<i>Chrysothamnus greenei</i> ssp. <i>filifolius: Chrysothamnus greenei</i>	37052	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2434	922	Asteraceae	<i>Chrysothamnus nauseosus</i> var. <i>bigelovii: Ericameria nauseosa</i> var. <i>bigelovii</i>	531864	UNM	Rink, Glenn	5/2007	U

Table A3, continued. Updated and annotated herbarium specimens for El Morro National Monument.

Accession #	Catalog #	Collection #	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00076	ELMO 2477	916	Asteraceae	<i>Chrysothamnus nauseosus</i> var. <i>graveolens</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>glabrata</i>	531865	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2461	837	Asteraceae	<i>Chrysothamnus nauseosus</i> var. <i>speciosus</i> : <i>Ericameria nauseosa</i> var. <i>speciosus</i>	531874	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1856	845	Asteraceae	<i>Chrysothamnus nauseosus</i> : <i>Ericameria nauseosa</i> ssp. <i>consimilis</i> var. <i>oreophila</i>	531861	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1853	922	Asteraceae	<i>Chrysothamnus nauseosus</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>bigelovii</i>	531864	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1855	sn	Asteraceae	<i>Chrysothamnus nauseosus</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>glabrata</i>	531865	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1854	915	Asteraceae	<i>Chrysothamnus nauseosus</i> : <i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>glabrata</i>	531865	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1857	832	Asteraceae	<i>Chrysothamnus pulchellus</i> (Gray) Greene: <i>Chrysothamnus depressus</i>	37051	ELMO SH 02	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1858	918	Asteraceae	<i>Chrysothamnus viscidiflorus</i> (Hook.): <i>Chrysothamnus greenii</i>	37052	ELMO SH 02	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1909	640	Asteraceae	<i>Coreopsis cardaminefolia</i> : <i>Coreopsis tinctoria</i> var. <i>tinctoria</i>	527496	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1869	941	Asteraceae	<i>Erigeron nudiflorus</i> Buckl.: <i>Erigeron flagellaris</i>	35865	ELMO SH 03	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2479	942	Asteraceae	<i>Erigeron nudiflorus</i> : <i>Erigeron colomexicanus</i>	502384	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1870	739	Asteraceae	<i>Erigeron pumilus</i> : <i>Erigeron concinnus</i> var. <i>concinnus</i>	527928	ELMO SH 03	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1871	606	Asteraceae	<i>Eupatorium herbaceum</i> : <i>Ageratina herbacea</i>	36469	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1872	825, 826	Asteraceae	<i>Franseria acanthicarpa</i> : <i>Ambrosia acanthicarpa</i>	36497	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2451	827	Asteraceae	<i>Fraseria acanthicarpa</i> : <i>Ambrosia acanthicarpa</i>	36497	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1873	610	Asteraceae	<i>Gnaphalium pringlei</i> : <i>Pseudognaphalium pringlei</i>	507658	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2491	609	Asteraceae	<i>Gnaphalium pringlei</i> : <i>Pseudognaphalium pringlei</i>	507658	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1874	933	Asteraceae	<i>Grindelia aphanactis</i> : <i>Grindelia nuda</i> var. <i>aphanactis</i>	528284	ELMO SH 03	Rink, Glenn	8/2006	U

Table A3, continued. Updated and annotated herbarium specimens for El Morro National Monument.

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ELMO-00024	ELMO 1878	822	Asteraceae	<i>Haplopappus gracilis</i> : <i>Machaeranthera gracilis</i>	37991	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1877	25	Asteraceae	<i>Haplopappus gracilis</i> : <i>Machaeranthera gracilis</i>	37991	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2473	745	Asteraceae	<i>Hymenoxys argentea</i> : <i>Tetranneuris argentea</i>	38509	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1886	744	Asteraceae	<i>Hymenoxys argentea</i> : <i>Tetranneuris argentea</i>	38509	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1888	805	Asteraceae	<i>Lactuca serriola</i> var. <i>serriola</i> : <i>Lactuca serriola</i>	36608	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2487	806	Asteraceae	<i>Lactuca serriola</i> var. <i>serriola</i> : <i>Lactuca serriola</i>	36608	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1889	22	Asteraceae	<i>Leucelene ericoides</i> : <i>Chaetopappa ericoides</i>	501376	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2455	EK21	Asteraceae	<i>Leucelene ericoides</i> : <i>Chaetopappa ericoides</i>	501376	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2489	625	Asteraceae	<i>Machaeranthera canescens</i> : <i>Machaeranthera canescens</i>	524291	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2488	856	Asteraceae	<i>Machaeranthera canescens</i> : <i>Machaeranthera canescens</i>	531698	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 1896	39	Asteraceae	<i>Ratibida columnaris</i> var. <i>pulcherrima</i> : <i>Ratibida columnifera</i>	38341	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1900	NP	Asteraceae	<i>Senecio multicapitatus</i> ssp. <i>longilobus</i> : <i>Senecio spartioides</i> var. <i>multicapitatus</i>	531525	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1901	634	Asteraceae	<i>Senecio multicapitatus</i> : <i>Senecio spartioides</i> var. <i>multicapitatus</i>	531525	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2490	923	Asteraceae	<i>Senecio multilobatus</i> : <i>Packera multilobata</i>	518150	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1902	35	Asteraceae	<i>Senecio multilobatus</i> : <i>Packera multilobata</i>	518150	ELMO SH 03	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2474	Un-known	Asteraceae	<i>Tetradymia canescens</i> var. <i>inermis</i> : <i>Tetradymia canescens</i>	38494	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2469	Un-known	Asteraceae	<i>Verbesina encelioides</i> var. <i>encelioides</i> : <i>Verbesina encelioides</i>	38603	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 1913	636	Asteraceae	<i>Verbesina encelioides</i> var. <i>encelioides</i> : <i>Verbesina encelioides</i>	38601	ELMO SH 04	Rink, Glenn	8/2006	U

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Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00024	ELMO 1917	NP	Unknown	Asteraceae	<i>Verbesina encelioides</i> var. <i>encelioides</i> : <i>Verbesina encelioides</i>	38601	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1912	555	8/7/1979	Asteraceae	<i>Verbesina encelioides</i> var. <i>encelioides</i> : <i>Verbesina encelioides</i>	38601	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1916	544	8/6/1979	Asteraceae	<i>Viguiera multiflora</i> : <i>Heliomeris multiflora</i>	37603	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 335	885	9/24/1980	Berberidaceae	<i>Berberis repens</i> : <i>Mahonia repens</i>	195045	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2467	884	Unknown	Berberidaceae	<i>Berberis repens</i> : <i>Mahonia repens</i>	195045	UNIM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1813	71	7/9/1978	Boraginaceae	<i>Cryptantha jamesii</i> : <i>Cryptantha cinerea</i>	501822	ELMO SH 01	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1812	718	5/29/1980	Boraginaceae	<i>Cryptantha jamesii</i> : <i>Cryptantha cinerea</i>	501822	ELMO SH 01	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1814	NP	Unknown	Boraginaceae	<i>Cryptantha jamesii</i> : <i>Cryptantha cinerea</i> var. <i>jamesii</i>	527550	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1816	431, 432, 435	5/9/1978	Boraginaceae	<i>Lappula redowskii</i> : <i>Lappula</i>	32043	ELMO SH 01	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1815	16	7/9/1978	Boraginaceae	<i>Lappula redowskii</i> : <i>Lappula occidentalis</i> var. <i>occidentalis</i>	528678	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2492	446	Unknown	Brassicaceae	<i>Arabis fendleri</i> var. <i>spatifolia</i> : <i>Arabis perennans</i>	22720	UNIM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 1924	927	9/27/1980	Brassicaceae	<i>Descurainia obtusa</i> : <i>Descurainia californica</i>	22821	ELMO SH 04	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1927	905	9/26/1980	Brassicaceae	<i>Descurainia richardsonii</i> : <i>Descurainia pinnata</i> ssp. <i>pinnata</i>	22827	ELMO SH 04	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1928	sn	Jul-77	Brassicaceae	<i>Dithyrea wislizeni</i> : <i>Dimorphocarpa wislizeni</i>	502067	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1929	45	7/9/1978	Brassicaceae	<i>Dithyrea wislizeni</i> : <i>Dimorphocarpa wislizeni</i>	502067	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1930	6	7/7/1979	Brassicaceae	<i>Draba aurea</i> var. <i>neomexicana</i> : <i>Draba aurea</i>	22863	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1936	811	8/15/1980	Brassicaceae	<i>Sisymbrium linearifolium</i> : <i>Schoenocrambe linearifolia</i>	195791	ELMO SH 04	Rink, Glenn	8/2006	U

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Accession #	Catalog #	Collection #	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00024	ELMO 1937	13	Brassicaceae	<i>Thelypodium longifolium</i> : <i>Pennellia micrantha</i>	23264	ELMO SH 04	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1939	453	Brassicaceae	<i>Thlaspi alpestre</i> : <i>Thlaspi montanum</i> var. <i>montanum</i>	530668	ELMO SH 034	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1940	688	Brassicaceae	<i>Thlaspi alpestre</i> : <i>Thlaspi montanum</i> var. <i>montanum</i>	530668	ELMO SH 04	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2388	689	Brassicaceae	<i>Thlaspi montanum</i> var. <i>fendleri</i> : <i>Thlaspi montanum</i> var. <i>montanum</i>	530668	UNM	Rink, Glenn	5/2007	A
ELMO-00077	ELMO 2619	Sn	Cactaceae	<i>Coryphantha vivipara</i> var. <i>arizonica</i> : <i>Escobaria vivipara</i> var. <i>arizonica</i>	528092	NMC	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1817	7	Cactaceae	<i>Coryphantha vivipara</i> : <i>Escobaria vivipara</i> var. <i>vivipara</i>	528100	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 337	sn	Cactaceae	<i>Cylindropuntia imbricata</i> : <i>Opuntia imbricata</i> var. <i>imbricata</i>	195281	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2385	368	Cactaceae	<i>Opuntia plumbea</i> : <i>Opuntia phaeacantha</i>	19724	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 339	479	Caprifoliaceae	<i>Symphoricarpos utahensis</i> : <i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	530607	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1821	496	Caryophyllaceae	<i>Arenaria confusa</i> : <i>Arenaria lanuginosa</i> ssp. <i>saxosa</i>	20260	ELMO SH 01	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2382	882	Caryophyllaceae	<i>Arenaria fendleri</i> var. <i>fendleri</i> : <i>Arenaria fendleri</i>	184230	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2383	9773	Caryophyllaceae	<i>Arenaria fendleri</i> : <i>Arenaria fendleri</i> var. <i>brevifolia</i>	184230	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2376	644	Chenopodiaceae	<i>Chenopodium ambrosioides</i> : <i>Chenopodium graveolens</i>	20611	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2375	846	Chenopodiaceae	<i>Chenopodium graveolens</i> var. <i>neomexicanum</i> : <i>Chenopodium graveolens</i>	20611	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1829	889	Chenopodiaceae	<i>Chenopodium paganum</i> : <i>Chenopodium album</i> var. <i>missouriense</i>	527309	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1831	18 & 19	Chenopodiaceae	<i>Eurotia lanata</i> : <i>Krascheninnikovia lanata</i>	503290	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1830	559	Chenopodiaceae	<i>Eurotia lanata</i> : <i>Krascheninnikovia lanata</i>	503290	ELMO SH 02	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1919	620	Convulvulaceae	<i>Ipomoea coccinea</i> var. <i>hederifolia</i> : <i>Ipomoea hederifolia</i>	30774	ELMO SH 03	Rink, Glenn	8/2006	U

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ELMO-00024	ELMO 352	9	7/9/1978	Euphorbiaceae	<i>Euphorbia lurida</i> : <i>Euphorbia brachycera</i>	28049	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2401	828	Unknown	Euphorbiaceae	<i>Euphorbia serpyllifolia</i> : <i>Chamaesyce serpyllifolia</i>	523844	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1947	NP	NP	Euphorbiaceae	<i>Euphorbia serpyllifolia</i> : <i>Chamaesyce serpyllifolia</i> ssp. <i>serpyllifolia</i>	523844	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1946	828	9/18/1980	Euphorbiaceae	<i>Euphorbia serpyllifolia</i> : <i>Chamaesyce serpyllifolia</i> ssp. <i>serpyllifolia</i>	523844	ELMO SH 04	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2408	907	Unknown	Fabaceae	<i>Melilotus albus</i> : <i>Melilotus officinalis</i>	26150	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2029	906	9/26/1980	Fabaceae	<i>Melilotus albus</i> : <i>Melilotus officinalis</i>	26150	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2032	948	9/27/1980	Fabaceae	<i>Petalostemon candidus</i> : <i>Dalea candida</i> var. <i>oligophylla</i>	192889	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2412	949	Unknown	Fabaceae	<i>Petalostemon candidum</i> var. <i>oligophyllum</i> : <i>Dalea candida</i> var. <i>oligophylla</i>	192889	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2033	59	7/9/1978	Fabaceae	<i>Psoralea lanceolata</i> Pursh: <i>Psoralidium lanceolatum</i>	504645	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2407	EK58	Unknown	Fabaceae	<i>Psoralea lanceolata</i> : <i>Psoralidium lanceolatum</i>	504645	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2406	729	Unknown	Fabaceae	<i>Trifolium subcaulescens</i> : <i>Trifolium gymnocarpon</i> ssp. <i>gymnocarpon</i>	26256	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 2035	728	6/15/1980	Fabaceae	<i>Trifolium subcaulescens</i> : <i>Trifolium gymnocarpon</i> ssp. <i>gymnocarpon</i>	26256	ELMO SH 07	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2404	EK50	Unknown	Fabaceae	<i>Vicia americana</i> var. <i>linearis</i> : <i>Vicia americana</i> ssp.	524802	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 2036	49	7/9/1978	Fabaceae	<i>Vicia americana</i> var. <i>linearis</i> : <i>Vicia americana</i> ssp. <i>minor</i>	524802	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1950	749	6/15/1980	Fagaceae	<i>Quercus undulata</i> : <i>Quercus x pauciloba</i>	19395	ELMO SH 04	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2571	713	Unknown	Fumariaceae	<i>Corydalis aurea</i> ssp. <i>occidentalis</i> : <i>Corydalis curvisiliqua</i> ssp. <i>occidentalis</i>	525523	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2574	EK52	Unknown	Geraniaceae	<i>Geranium caespitosum</i> var. <i>caespitosum</i> : <i>Geranium caespitosum</i>	29130	UNM	Rink, Glenn	5/2007	U
ELMO-00076	ELMO 2573	622	Unknown	Geraniaceae	<i>Geranium caespitosum</i> var. <i>eremophilum</i> : <i>Geranium caespitosum</i>	29130	UNM	Rink, Glenn	5/2007	U

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ELMO-00076	ELMO 2575	617	Grossulariaceae	<i>Ribes inebrians</i> : <i>Ribes cereum</i>	24457	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2585	448	Grossulariaceae	<i>Ribes inebrians</i> : <i>Ribes cereum</i> var. <i>pedicellare</i>	530048	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 2099	449	Grossulariaceae	<i>Ribes inebrians</i> : <i>Ribes cereum</i> var. <i>pedicellare</i>	530048	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2100	618	Grossulariaceae	<i>Ribes inebrians</i> : <i>Ribes cereum</i> var. <i>pedicellare</i>	530048	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2577	Unknown	Hydrophyllaceae	<i>Phacelia corrugata</i> : <i>Phacelia serrata</i>	31595	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 357	5	Hydrophyllaceae	<i>Phacelia neomexicana</i> : <i>Phacelia alba</i>	31435	ELMO SH 07	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2016	sn	Hydrophyllaceae	<i>Phacelia ramosissima</i> : <i>Phacelia alba</i>	31435	ELMO SH 07	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2019	468	Lamiaceae	<i>Moldavica parviflora</i> : <i>Dracocephalum parviflorum</i>	32490	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2570	469	Lamiaceae	<i>Moldavica parviflorum</i> : <i>Dracocephalum parviflorum</i>	32490	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2022	3	Lamiaceae	<i>Monarda punctata</i> var. <i>lasiodonta</i> : <i>Monarda punctata</i> ssp. <i>punctata</i> var. <i>lasiodonta</i>	531726	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2037	565	Liliaceae	<i>Anthericum torreyi</i> : <i>Echeandia flavescens</i>	502198	ELMO SH 07	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 362	408	Linaceae	<i>Linum kingii</i> : <i>Linum pratense</i>	29218	ELMO SH 07	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2055	NP	Linaceae	<i>Menodora scabra</i> : <i>Linum pratense</i>	29218	ELMO SH 08	Rink, Glenn	8/2006	A
ELMO-00077	ELMO 2632	sn	Malvaceae	<i>Sphaeralcea coccinea</i> var. <i>elata</i> : <i>Sphaeralcea coccinea</i> ssp. <i>elata</i>	21923	NMC	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2047	944	Malvaceae	<i>Sphaeralcea incana</i> var. <i>cuneata</i> : <i>Sphaeralcea incana</i> ssp. <i>cuneata</i>	21945	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2049	sn	Nyctaginaceae	<i>Abronia fragrans</i> : <i>Abronia elliptica</i>	19556	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 366	12	Nyctaginaceae	<i>Abronia fragrans</i> : <i>Abronia elliptica</i>	19556	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2052	861&862	Nyctaginaceae	<i>Oxybaphus glaber</i> : <i>Mirabilis glabra</i>	19643	ELMO SH 08	Rink, Glenn	8/2006	U

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ELMO-00024	ELMO 2053	355?	NP	Nyctaginaceae	<i>Oxybaphus linearis</i> : <i>Mirabilis linearis</i>	19651	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2564	SC18	Unknown	Nyctaginaceae	<i>Tripterocalyx wootonii</i> : <i>Tripterocalyx carnea</i> var. <i>wootonii</i>	530749	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2054	17	7/9/1978	Nyctaginaceae	<i>Tripterocalyx wootonii</i> : <i>Tripterocalyx carnea</i> var. <i>wootonii</i>	530749	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2059	786	7/8/1980	Onagraceae	<i>Gaura parviflora</i> : <i>Gaura mollis</i>	565206	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2060	sn	Jul-77	Onagraceae	<i>Gaura parviflora</i> : <i>Gaura mollis</i>	565206	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2584	357	Unknown	Onagraceae	<i>Oenothera hookeri</i> ssp. <i>hirsutissima</i> : <i>Oenothera elata</i>	524352	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2070	358	7/24/1978	Onagraceae	<i>Oenothera hookeri</i> : <i>Oenothera elata</i> ssp. <i>hookeri</i>	524353	ELMO SH 08	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2602	354	Unknown	Onagraceae	<i>Oenothera pallida</i> ssp. <i>runcinata</i> : <i>Oenothera pallida</i> ssp. <i>trichocalyx</i>	27440	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2603	480	Unknown	Orchidaceae	<i>Corallorrhiza maculata</i> : <i>Corallorrhiza maculata</i> var. <i>maculata</i>	566221	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1956	NP	Aug-77	Poaceae	<i>Agropyron smithii</i> : <i>Lolium perenne</i>	40893	ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1955	901	9/27/1980	Poaceae	<i>Agropyron smithii</i> : <i>Pascopyrum smithii</i>	504124	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1957	513	7/21/1979	Poaceae	<i>Agropyron smithii</i> : <i>Pascopyrum smithii</i>	504124	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1958	751	6/15/1980	Poaceae	<i>Agropyron trachycaulum</i> : <i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	524041	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1959	8	7/7/1979	Poaceae	<i>Agropyron trachycaulum</i> : <i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	524041	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1954	NP	1/16/1993	Poaceae	<i>Agropyron x pseudorepens</i> : <i>Elymus x pseudorepens</i>	502274	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 356	954	9/27/1980	Poaceae	<i>Agropyron x pseudorepens</i> : <i>Elymus x pseudorepens</i>	502274	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1964	645	9/9/1979	Poaceae	<i>Andropogon scoparius</i> var. <i>neomexicanus</i> : <i>Schizachyrium scoparium</i> var. <i>scoparium</i>	530264	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1963	NP	Unknown	Poaceae	<i>Andropogon scoparius</i> : <i>Schizachyrium scoparium</i> var. <i>scoparium</i>	530264	ELMO SH 05	Rink, Glenn	8/2006	U

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ELMO-00024	ELMO 1967	935	Poaceae	<i>Aristida fendleriana</i> : <i>Aristida purpurea</i> var. <i>fendleriana</i>	531154	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2610	935	Poaceae	<i>Aristida fendleriana</i> : <i>Aristida purpurea</i> var. <i>fendleriana</i>	531154	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1968	975	Poaceae	<i>Aristida longiseta</i> : <i>Aristida</i>	41400	ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1969	10	Poaceae	<i>Aristida longiseta</i> : <i>Aristida purpurea</i> var. <i>longiseta</i>	185314	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2611	SC10	Poaceae	<i>Aristida longiseta</i> var. <i>rariflora</i> : <i>Aristida purpurea</i> var. <i>longiseta</i>	185314	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1970	960	Poaceae	<i>Aristida orcuttiana</i> : <i>Aristida schiedeana</i> var. <i>orcuttiana</i>	531420	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2612	960	Poaceae	<i>Aristida orcuttiana</i> : <i>Aristida schiedeana</i> var. <i>orcuttiana</i>	531420	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 1977	968 & 939	Poaceae	<i>Bromus anomalus</i> : <i>Bromus lanatipes</i>	501071	ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1978	508	Poaceae	<i>Bromus arvensis</i> : <i>Bromus japonicus</i>	40479	ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00077	ELMO 2625	sn	Poaceae	<i>Echinochloa muricata</i> : <i>Echinochloa muricata</i> var. <i>microstachya</i>	527841	NMC	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2594	945	Poaceae	<i>Elymus elymoides</i> ssp. <i>elymoides</i> : <i>Elymus elymoides</i>	525111	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2595	ek66	Poaceae	<i>Elymus elymoides</i> ssp. <i>elymoides</i> : <i>Elymus elymoides</i>	525111	UNM	Rink, Glenn	5/2007	A
ELMO-00076	ELMO 2591	902	Poaceae	<i>Eragrostis barrelleri</i> : <i>Eragrostis pectinacea</i>	40723	UNM	Rink, Glenn	5/2007	A
ELMO-00077	ELMO 2631	sn	Poaceae	<i>Eragrostis diffusa</i> : <i>Eragrostis pectinacea</i> var. <i>pectinacea</i>	527900	NMC	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 1987	440	Poaceae	<i>Festuca octoflora</i> : <i>Vulpia octoflora</i>	42264	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 1989	NP	Poaceae	<i>Festuca ovina</i> : <i>Poaceae</i>		ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1990	741A	Poaceae	<i>Hordeum leporinum</i> : <i>Hordeum murinum</i> ssp. <i>glaucum</i>	524160	ELMO SH 05	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1993	550	Poaceae	<i>Koeleria cristata</i> : <i>Koeleria macrantha</i>	503284	ELMO SH 06	Rink, Glenn	8/2006	A

Table A3, continued. Updated and annotated herbarium specimens for El Morro National Monument.

Accession #	Catalog #	Collection	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00024	ELMO 1992	NP	Poaceae	<i>Koeleria cristata</i> : <i>Koeleria macrantha</i>	503284	ELMO SH 06	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 1991	23	Poaceae	<i>Koeleria cristata</i> : <i>Koeleria macrantha</i>	503284	ELMO SH 06	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2001	sn	Poaceae	<i>Oryzopsis hymenoides</i> : <i>Achnatherum hymenoides</i>	507943	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2513	ji 12a	Poaceae	<i>Oryzopsis hymenoides</i> : <i>Achnatherum hymenoides</i>	507943	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2002	NP	Poaceae	<i>Oryzopsis micrantha</i> : <i>Piptatherum micranthum</i>	507991	ELMO SH 06	Rink, Glenn	8/2006	U
ELMO-00076	ELMO 2512	ek54	Poaceae	<i>Oryzopsis micrantha</i> : <i>Piptatherum micranthum</i>	507991	UNM	Rink, Glenn	5/2007	U
ELMO-00024	ELMO 2003	6	Poaceae	<i>Oryzopsis micrantha</i> : <i>Piptatherum micranthum</i>	507991	ELMO SH 06	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2006	650	Poaceae	<i>Paspalum stramineum</i> : <i>Paspalum setaceum</i>	41042	ELMO SH 06	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2008	956	Poaceae	<i>Poa longiligula</i> : <i>Poa fendleriana</i> ssp. <i>longiligula</i>	526423	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2007	731	Poaceae	<i>Poa longiligula</i> : <i>Poa fendleriana</i> ssp. <i>longiligula</i>	526423	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2011	66	Poaceae	<i>Sitanion hystrix</i> : <i>Elymus elymoides</i> ssp. <i>elymoides</i>	525113	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2012	NP	Poaceae	<i>Sitanion hystrix</i> : <i>Elymus elymoides</i> ssp. <i>elymoides</i>	525113	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2014	953	Poaceae	<i>Stipa columbiana</i> : <i>Achnatherum nelsonii</i> ssp. <i>dorei</i>	525105	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2015	464	Poaceae	<i>Stipa comata</i> : <i>Hesperostipa comata</i> ssp. <i>comata</i>	525116	ELMO SH 05	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2078	sn	Polemoniaceae	<i>Gilia longiflora</i> : <i>Ipomopsis longiflora</i> ssp. <i>longiflora</i>	524182	ELMO SH 09	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2081	425	Polemoniaceae	<i>Microsteris gracilis</i> : <i>Phlox gracilis</i>	504316	ELMO SH 09	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2088	799	Polygonaceae	<i>Eriogonum simpsonii</i> : <i>Eriogonum microthecum</i> var. <i>simpsonii</i>	195533	ELMO SH 09	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2089	sn	Polygonaceae	<i>Eriogonum simpsonii</i> : <i>Eriogonum microthecum</i> var. <i>simpsonii</i>	195533	ELMO SH 09	Rink, Glenn	8/2006	U

Table A3, continued. Updated and annotated herbarium specimens for El Morro National Monument.

Accession #	Catalog #	Collection #	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/annotated
ELMO-00024	ELMO 2090	473	Polygonaceae	<i>Polygonum sawatchense</i> Small: <i>Polygonum douglasii</i> ssp. <i>johnstonii</i>	524556	ELMO SH 09	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2544	776	Polygonaceae	<i>Rumex altissimus</i> : <i>Rumex crispus</i>	20937	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 375	863	Portulacaceae	<i>Portulaca retusa</i> : <i>Portulaca oleracea</i>	20422	ELMO SH 09	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2092	831	Portulacaceae	<i>Portulaca</i> : <i>Portulaca oleracea</i>	20422	ELMO SH 09	Rink, Glenn	8/2006	A
ELMO-00076	ELMO 2539	423	Ranunculaceae	<i>Myosurus nitidus</i> : <i>Myosurus minimus</i>	503898	UNM	Rink, Glenn	5/2007	A
ELMO-00024	ELMO 2116	890	Solanaceae	<i>Physalis foetens</i> var. <i>neomexicana</i> : <i>Physalis subulata</i> var. <i>neomexicana</i>	529636	ELMO SH 10	Rink, Glenn	8/2006	A
ELMO-00024	ELMO 2117	886	Solanaceae	<i>Physalis hederifolia</i> var. <i>cordifolia</i> : <i>Physalis hederifolia</i> var. <i>fendleri</i>	529625	ELMO SH 10	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2118	509	Solanaceae	<i>Physalis hederifolia</i> var. <i>cordifolia</i> : <i>Physalis hederifolia</i> var. <i>fendleri</i>	529625	ELMO SH 10	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2119	78	Solanaceae	<i>Physalis hederifolia</i> var. <i>cordifolia</i> : <i>Physalis hederifolia</i> var. <i>fendleri</i>	529625	ELMO SH 10	Rink, Glenn	8/2006	U
ELMO-00024	ELMO 2120	11	Solanaceae	<i>Physalis hederifolia</i> var. <i>cordifolia</i> : <i>Physalis hederifolia</i> var. <i>fendleri</i>	529625	ELMO SH 10	Rink, Glenn	8/2006	U

Table A4. Updated and annotated herbarium specimens for Salinas Pueblo Missions National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/ annotated
SAPU-00004	SAPU 98	4/98	3/10/1958	Amaranthaceae	<i>Cladothrix lanuginosa</i> : <i>Tidestromia lanuginosa</i>	20834	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 80	7668	6/16/1993	Asclepiadaceae	<i>Asclepias brachystephana</i> : <i>Asclepias engelmanniana</i>	30263	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52124	04SQ011-F2	8/9/2004	Asteraceae	<i>Artemisia campestris</i> : <i>Artemisia campestris</i> ssp. <i>caudata</i>	183750	UNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52126	04SG014-F26	8/10/2004	Asteraceae	<i>Centaurea americana</i> : <i>Artemisia campestris</i> ssp. <i>caudata</i>	183750	UNM	Rink, Glenn	8/2006	A
SAPU-00157	SAPU 73	5853	NP	Asteraceae	<i>Centaurea americana</i> : <i>Plectrocephalus americanus</i>	36951	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51975	7652	6/16/1993	Asteraceae	<i>Engelmannia pinnatifida</i> : <i>Engelmannia peristenia</i>	565159	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51974	7709	6/16/1993	Asteraceae	<i>Engelmannia pinnatifida</i> : <i>Engelmannia peristenia</i>	565159	SJNM	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 102	4/102	NP	Asteraceae	<i>Erigeron divergens</i> : <i>Erigeron bellidialstrum</i> var. <i>bellidialstrum</i>	527919	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 106	4/106	NP	Asteraceae	<i>Gaillardia pulchella</i>	37410	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51982	7620	6/15/1993	Asteraceae	<i>Haplopappus spinulosus</i> : <i>Machaeranthera pinnatifida</i> ssp. <i>pinnatifida</i> var. <i>pinnatifida</i>	531712	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51983	7649	6/15/1993	Asteraceae	<i>Heterosperma pinnatum</i> : <i>Ratibida tagetes</i>	38344	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52134	04SQ004-F6	8/9/2004	Asteraceae	<i>Hymenopappus filifolius</i> var. <i>pauciflorus</i> : <i>Hymenopappus flavescens</i> var. <i>canotomentosus</i>	528530	UNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 108	4/108	NP	Asteraceae	<i>Hymenopappus robustus</i> : <i>Hymenopappus flavescens</i> var. <i>canotomentosus</i>	528530	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51987	7580	6/15/1993	Asteraceae	<i>Hymenoxys acaulis</i> var. <i>acaulis</i> : <i>Tetranneuris argentea</i>	38509	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51986	7632	6/15/1993	Asteraceae	<i>Hymenoxys acaulis</i> : <i>Tetranneuris acaulis</i> var. <i>acaulis</i>	530623	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 51988	7589	6/15/1993	Asteraceae	<i>Hymenoxys filifolius</i> : <i>Hymenopappus filifolius</i>	37766	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 51989	7640	6/15/1993	Asteraceae	<i>Iva xanthifolia</i> : <i>Xanthium strumarium</i>	38692	SJNM	Rink, Glenn	8/2006	A

Table A4, continued. Updated and annotated herbarium specimens for Salinas Pueblo Missions National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/ annotated
SAPU-00231	SAPU 51990	7607	6/15/1993	Asteraceae	<i>Lactuca serriola</i> : <i>Sonchus avensis</i>	38421	SJNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 107	4/107	NP	Asteraceae	<i>Haplopappus gracilis</i> : <i>Machaeranthera gracilis</i>	37991	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00157	SAPU 74	85	10/27/61	Asteraceae	<i>Pectis papposa</i> : <i>Pectis angustifolia</i> var. <i>angustifolia</i>	529425	UNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 122	4/122	NP	Asteraceae	<i>Psilostrophe Psilostrophe tagetina</i> var. <i>tagetina</i>	529900	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 51994	7597	6/15/1993	Asteraceae	<i>Senecio douglasii</i> : <i>Senecio flaccidus</i> var. <i>flaccidus</i>	530313	SJNM	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 985	4/124	NP	Asteraceae	<i>Sisymbrium pinnatum</i> : <i>Townsendia annua</i>	38538	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52136	04SG001-F14	8/10/2004	Asteraceae	<i>Townsendia fendleri</i> : <i>Townsendia annua</i>	38538	UNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52000	7713	6/16/1993	Asteraceae	<i>Xanthium strumarium</i> : <i>Glycyrrhiza lepidota</i>	26719	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52001	7667	6/16/1993	Berberidaceae	<i>Berberis fremontii</i> : <i>Mahonia fremontii</i>	195033	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52002	7624	6/15/1993	Boraginaceae	<i>Cryptantha crassise-pala</i> var. <i>elachantha</i>	527560	SJNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 110	4/110	NP	Boraginaceae	<i>Lappula</i> : <i>Lappula occidentalis</i> var. <i>occidentalis</i>	528678	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 124	4-124	NP	Brassicaceae	<i>Sisymbrium pinnatum</i> : <i>Descurainia sophia</i>	22843	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 101	4/101	NP	Brassicaceae	<i>Dithyrea Griffithsii</i> : <i>Dimorphocarpa wislizeni</i>	502067	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 126	4/126	NP	Brassicaceae	<i>Thelypodium linearifolium</i> : <i>Schoenocrambe linearifolia</i>	195791	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52010	7641	6/15/1993	Brassicaceae	<i>Sisyrinchium montanum</i> : <i>Sisyrinchium demissum</i>	43255	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52015	7616	6/15/1993	Chenopodiaceae	<i>Salsola iberica</i> : <i>Salsola tragus</i>	520950	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52022	7697	6/16/1993	Cyperaceae	<i>Eleocharis macrostachya</i> : <i>Eleocharis palustris</i>	40019	SJNM	Rink, Glenn	8/2006	A

Table A4, continued. Updated and annotated herbarium specimens for Salinas Pueblo Missions National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/ annotated
SAPU-00231	SAPU 52023	7645	6/15/1993	Cyperaceae	<i>Eleocharis palustris</i> : <i>Eleocharis parishii</i>	40063	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52027	7685	6/16/1993	Cyperaceae	<i>Scirpus validus</i> : <i>Schoenoplectus tabernaemontani</i>	507797	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52028	7638	6/15/1993	Equisetaceae	<i>Equisetum arvense</i> : <i>Equisetum laevigatum</i>	17156	SJNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 119	4/119	NP	Fabaceae	<i>Dalea compacta</i> var. <i>compacta</i> : <i>Dalea cylindrica</i>	26607	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52037	7611	6/15/1993	Fabaceae	<i>Hoffmannseggia drepanocarpa</i> : <i>Caesalpinia drepanocarpa</i>	184647	SJNM	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 123	4/123	NP	Fabaceae	<i>Psoralegium</i> : <i>Psoralegium lanceolatum</i>	504645	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 123	4/123	NP	Fabaceae	<i>Psoralegium lanceolatum</i> : <i>Psoralegium</i>	504645	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52043	7712	6/16/1993	Fagaceae	<i>Quercus undulata</i> : <i>Quercus</i> × <i>pauciloba</i>	19395	SJNM	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 99	4/99	NP	Fumariaceae	<i>Corydalis aurea</i> var. <i>occidentalis</i> : <i>Corydalis curvisiliqua</i> ssp. <i>occidentalis</i>	525523	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52046	7698	6/16/1993	Geraniaceae	<i>Geranium fremontii</i> : <i>Geranium caespitosum</i> var. <i>eremophilum</i>	528233	SJNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 116	4/116	NP	Hydrophyllaceae	<i>Nama hispida</i> : <i>Nama hispidum</i>	31414	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 114	4/114	NP	Malvaceae	<i>Malvastrum coccineum</i> : <i>Sphaeralcea coccinea</i> ssp. <i>coccinea</i>	21921	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 118	4/118	NP	Onagraceae	<i>Oenothera hartwegii</i> var. <i>fendleri</i> : <i>Calylophus hartwegii</i> ssp. <i>fendleri</i>	523731	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52066	7688	6/16/1993	Onagraceae	<i>Oenothera albicaulis</i> : <i>Oenothera coronopifolia</i>	27387	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52072	7573	6/15/1993	Poaceae	<i>Aristida purpurea</i> : <i>Aristida purpurea</i> var. <i>fendleriana</i>	531154	SJNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52081	7686	6/16/1993	Poaceae	<i>Hilaria jamesii</i> : <i>Pleuraphis jamesii</i>	507993	SJNM	Rink, Glenn	8/2006	U
SAPU-00231	SAPU 52083	7695	6/16/1993	Poaceae	<i>Koeleria cristata</i> : <i>Polypogon monspeliensis</i>	41171	SJNM	Rink, Glenn	8/2006	A

Table A4, continued. Updated and annotated herbarium specimens for Salinas Pueblo Missions National Monument.

Accession #	Catalog #	Collection #	Collection date	Family	Original: current scientific name	TSN	Herbarium collection	Reviewers	Review date	Updated/ annotated
SAPU-00231	SAPU 52089	7588	6/15/1993	Poaceae	<i>Sporobolus cryptandrus: Muhlenbergia</i>	41883	SINM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52091	7574	6/15/1993	Polemoniaceae	<i>Gilia longiflora: Ipomopsis longiflora ssp. longiflora</i>	524182	SINM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52170	04SG014-F7	8/10/2004	Polygonaceae	<i>Eriogonum polycladon: Eriogonum annuum</i>	21066	UNM	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52171	05AR005-S1	8/11/2005	Ranunculaceae	<i>Clematis columbiana var. columbiana: Clematis ligusticifolia</i>	18702	UNM	Rink, Glenn	8/2006	A
SAPU-00004	SAPU 97	4/97	NP	Scrophulariaceae	<i>Castilleja integra var. integra: Castilleja integra</i>	33131	SAPU HQ CAB 12	Rink, Glenn	8/2006	U
SAPU-00004	SAPU 121	4/121	NP	Solanaceae	<i>Physalis hederifolia var. comata: Physalis hederifolia</i>	529624	SAPU HQ CAB 12	Rink, Glenn	8/2006	A
SAPU-00231	SAPU 52113	7614	6/15/1993	Tamaricaceae	<i>Tamarix pentandra: Tamarix chinensis</i>	22308	SINM	Rink, Glenn	8/2006	A

Appendix B: Specimens Not Added to the Database

Appendix B contains four tables that detail all the expected specimens that we did not add to the ANCS+ database during this review. The specimens in these tables were located at either the University of New Mexico Herbarium (UNM) or the San Juan College Herbarium (SJNM).

Park	Table	Pages
Aztec Ruins National Monument	B1	32
El Malpaís National Monument	B2	33
El Morro National Monument	B3	34
Salinas Pueblo Missions National Monument	B4	35–37

Table B1. Expected specimens from Aztec Ruins National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collector	Collection #	Collection date	Reason for not adding to ANCS+ database	Searcher	Search date
UNM	Asteraceae	<i>Townsendia incana</i>	38549	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Lepidium densiflorum</i> : <i>Lepidium lasiocarpum</i> var. <i>lasiocarpum</i>	22968	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Cactaceae	<i>Sclerocactus parviflorus</i> var. <i>intermedius</i> : <i>Sclerocactus parviflorus</i> ssp. <i>intermedius</i>	566090	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Cupressaceae	<i>Juniperus osteosperma</i>	194859	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Cuscutaceae	<i>Cuscuta</i>	30710	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Portulacaceae	<i>Portulaca oleracea</i>	20422	Unknown	Unknown	Unknown	Not found	Rink, Glenn	8/2006
UNM	Rosaceae	<i>Purshia tridentata</i>	25290	Unknown	Unknown	Unknown	Not in park	Rink, Glenn	8/2006

Table B2. Expected specimens from El Malpais National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collection		Reason for not adding to ANCS+ database	Searcher	Search date
				Collector	#			
UNM	Agavaceae	<i>Yucca angustissima</i>	43131	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Aspleniaceae	<i>Asplenium septentrionale</i>	17361	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Aspleniaceae	<i>Asplenium septentrionale</i>	17361	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Artemisia bigelovii</i>	35452	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Hymenopappus flavescent</i>	37767	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Psilostrophe sparsiflora</i>	38315	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Dimorphocarpa wislizeni</i>	502067	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cactaceae	<i>Escobaria vivipara</i> var. <i>arizonica</i>	528092			Unknown	Rink, Glenn	8/2006
UNM	Commelinaceae	<i>Commelina dianthifolia</i> var. <i>longispatha</i>	527462	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Cyperus fendlerianus</i>	501922	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Cyperus fendlerianus</i>	501922	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Cyperus schweinitzii</i>	39963	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Cyperus schweinitzii</i>	39963	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Cyperus schweinitzii</i>	39963	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Fabaceae	<i>Lupinus argenteus</i> ssp. <i>argenteus</i> var. <i>argenteus</i>	531660	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Grossulariaceae	<i>Ribes cereum</i> var. <i>pedicellare</i>	530048	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Hydrophyllaceae	<i>Phacelia serrata</i>	31595	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Hydrophyllaceae	<i>Phacelia serrata</i>	31595	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Oleaceae	<i>Forestiera pubescens</i>	32957	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Oleaceae	<i>Fraxinus cuspidata</i>	32942	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Poaceae	<i>Blepharoneuron tricholepis</i>	41475	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Poaceae	<i>Lycurus setosus</i>	503616	unknown	unknown	Unknown	Rink, Glenn	8/2006
UNM	Poaceae	<i>Lycurus setosus</i>	503616	unknown	unknown	Unknown	Rink, Glenn	8/2006
UNM	Poaceae	<i>Pleuraphis jamesii</i>	507993	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Polemoniaceae	<i>Ipomopsis longiflora</i> ssp. <i>australis</i>	524181	unknown	unknown	Unknown	Rink, Glenn	8/2006
UNM	Rosaceae	<i>Holodiscus dumosus</i>	25178	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Rosaceae	<i>Holodiscus dumosus</i>	25178	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Solanaceae	<i>Solanum jamesii</i>	30437	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Solanaceae	<i>Solanum jamesii</i>	30437	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Solanaceae	<i>Solanum jamesii</i>	30437	NP	NP	Unknown	Rink, Glenn	8/2006
UNM	Solanaceae	<i>Solanum jamesii</i>	30437	NP	NP	Unknown	Rink, Glenn	8/2006

Table B3. Expected specimens from El Morro National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collector	Collection #	Collection date	Reason for not adding to ANCS+ database	Searcher	Search date
UNM	Asteraceae	<i>Chrysothamnus baileyi</i>	510990	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Coreopsis tinctoria</i> var. <i>tinctoria</i>	527496	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>glabrata</i>	531865	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Heliomeris multiflora</i> var. <i>multiflora</i>	528364	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Asteraceae	<i>Ratibida tagetes</i>	38344	D.A. McCallum	899	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Arabis perennans</i>	22720	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Arabis perennans</i>	22720	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Descurainia californica</i>	22821	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Descurainia californica</i>	22821	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Descurainia pinnata</i>	22826	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Descurainia pinnata</i>	22826	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Draba aurea</i>	22863	Unknown	NP	Unknown	Not in park	Rink, Glenn	8/2006
UNM	Brassicaceae	<i>Erysimum capitatum</i>	22932	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Caprifoliaceae	<i>Symphoricarpos oreophilus</i> var. <i>utahensis</i>	530607	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Chenopodiaceae	<i>Chenopodium album</i>	20592	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Chenopodiaceae	<i>Eurotia lanata</i> : <i>Krascheninnikovia lanata</i>	503290	Unknown	Unknown	Unknown	Not found	Rink, Glenn	8/2006
UNM	Chenopodiaceae	<i>Eurotia lanata</i> : <i>Krascheninnikovia lanata</i>	503290	Unknown	Unknown	Unknown	Not found	Rink, Glenn	8/2006
UNM	Commelinaceae	<i>Tradescantia occidentalis</i>	39168	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Commelinaceae	<i>Tradescantia pinetorum</i>	39172	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Cupressaceae	<i>Juniperus monosperma</i>	194853	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Cuscutaceae	<i>Cuscuta megalocarpa</i>	501851	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Cyperaceae	<i>Carex molesta</i>	39704	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Euphorbiaceae	<i>Euphorbia brachycera</i>	28049	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Euphorbiaceae	<i>Euphorbia brachycera</i>	28049	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Euphorbiaceae	<i>Euphorbia brachycera</i>	28049	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Lamiaceae	<i>Monarda punctata</i> ssp. <i>punctata</i> var. <i>lasiodonta</i>	531726	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Lamiaceae	<i>Salvia reflexa</i>	32692	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006
UNM	Solanaceae	<i>Physalis subulata</i> var. <i>neomexicana</i>	529636	Unknown	NP	Unknown	Not found	Rink, Glenn	8/2006

Table B4. Expected specimens from Salinas Pueblo Missions National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collector	Collection #	Collection date	Reason for not adding to ANCS+ database	Searcher	Search date
SJNM	Agavaceae	<i>Yucca</i>	43116	K. Heil	7715	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Asteraceae	<i>Cirsium parryi</i>	36395	K. Heil	7693	6/16/1993	New (specimen not located)	Rink, Glenn	8/2006
SJNM	Asteraceae	<i>Erigeron divergens</i>	35852	K. Heil	7687	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Asteraceae	<i>Haplopappus</i>		K. Heil	7678	6/16/1993	New (specimen not located)	Rink, Glenn	8/2006
SJNM	Asteraceae	<i>Heterotheca villosa</i>	37689	K. Heil	7657	6/16/1993	New (specimen not located)	Rink, Glenn	8/2006
SJNM	Asteraceae	<i>Hymenopappus filifolius</i> Hook.	37766	K. Heil	7671	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Brassicaceae	<i>Lesquerella praecox: Lesquerella fendleri</i>	23180	K. Heil	7586	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Brassicaceae	<i>Lesquerella praecox: Lesquerella fendleri</i>	23180	K. Heil	7606	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Brassicaceae	<i>Lesquerella praecox: Lesquerella fendleri</i>	23180	K. Heil	7606	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Brassicaceae	<i>Nasturtium sinuatum: Rorippa sinuata</i>	23014	K. Heil	7710	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Chenopodiaceae	<i>Chenopodium fremontii</i>	20607	K. Heil	7725	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Chenopodiaceae	<i>Kochia scoparia: Bassia hyssopifolia</i>	20588	K. Heil	7727	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Convolvulaceae	<i>Convolvulus incanus: Convolvulus arvensis</i>	30705	K. Heil	7719	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Cyperaceae	<i>Carex lanuginosa: Carex pellita</i>	507767	K. Heil	7702	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Cyperaceae	<i>Scirpus americanus: Schoenoplectus americanus</i>	508141	K. Heil	7646	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Cyperaceae	<i>Scirpus americanus: Schoenoplectus americanus</i>	508141	K. Heil	7647	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Cyperaceae	<i>Scirpus americanus: Schoenoplectus americanus</i>	508141	K. Heil	7647	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Cyperaceae	<i>Scirpus americanus: Schoenoplectus americanus</i>	508141	K. Heil	7636	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Equisetaceae	<i>Equisetum laevigatum</i>	17156	K. Heil	7679	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Euphorbiaceae	<i>Euphorbia missurica</i> var. <i>intermedia: Chamaesyce missurica</i>	501440	K. Heil	7582	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Fabaceae	<i>Astragalus wootonii: Astragalus allochrous</i> var. <i>playanus</i>	192807	K. Heil	7579	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Fabaceae	<i>Astragalus wootonii: Astragalus allochrous</i> var. <i>playanus</i>	192807	K. Heil	7673	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Fabaceae	<i>Lupinus pusillus</i> Pursh	26099	K. Heil	7660	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Juncaceae	<i>Juncus balticus</i> var. <i>montanus: Juncus arcticus</i>	39222	K. Heil	7625	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Juncaceae	<i>Juncus balticus</i> var. <i>montanus: Juncus arcticus</i>	39222	K. Heil	7625	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Juncaceae	<i>Juncus balticus</i> var. <i>montanus: Juncus arcticus</i>	39222	K. Heil	7627	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Juncaceae	<i>Juncus balticus: Juncus arcticus</i>	39222	K. Heil	7692	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Juncaceae	<i>Juncus balticus: Juncus arcticus</i>	39222	K. Heil	7642	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006

Table B4, continued. Expected specimens from Salinas Pueblo Missions National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collector	Collection #	Collection date	Reason for not adding to ANCS+ database	Searcher	Search date
SJNM	Juncaceae	<i>Juncus ensifolius</i>	39269	K. Heil	7643	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Linaceae	<i>Linum aristatum</i> Engelm.	29231	K. Heil	7703	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Linaceae	<i>Linum puberulum</i> (Engelm.) Heller	29219	K. Heil	7726	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Loasaceae	<i>Mentzelia pumila</i>	503800	K. Heil	7590	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Loasaceae	<i>Mentzelia pumila</i>	503800	K. Heil	7590	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Malvaceae	<i>Sphaeralcea coccinea</i>	21920	K. Heil	7658	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Malvaceae	<i>Sphaeralcea coccinea</i>	21920	K. Heil	7720	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Oleaceae	<i>Forestiera neomexicana</i> : <i>Forestiera pubescens</i> var. <i>pubescens</i>	528175	K. Heil	7595	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Onagraceae	<i>Gaura coccinea</i>	27646	K. Heil	7635	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Agropyron repens</i> : <i>Elymus repens</i>	512839	K. Heil	7684	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Agropyron smithii</i> : <i>Pascopyrum smithii</i>	504124	K. Heil	7681	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Alopecurus aequalis</i>	40436	K. Heil	7617	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Alopecurus aequalis</i>	40436	K. Heil	7617	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Bromus carinatus</i>	40481	K. Heil	7644	6/15/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Bromus carinatus</i>	40481	K. Heil	7683	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Bromus inermis</i>	40502	K. Heil	7706	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Muhlenbergia asperifolia</i>	41899	K. Heil	7724	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Oryzopsis hymenoides</i> : <i>Achnatherum hymenoides</i>	507943	K. Heil	7682	6/16/1993	Not Found, specimen on loan	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Poa interior</i> : <i>Poa nemoralis</i> ssp. <i>interior</i>	526427	K. Heil	7648	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Tridens</i>	42220	K. Heil	7670	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Poaceae	<i>Tridens</i>	42220	K. Heil	7670	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Polygalaceae	<i>Polygala alba</i> Nutt.	29323	K. Heil	7571	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Polygonaceae	<i>Rumex crispus</i> L.	20937	K. Heil	7622	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Salicaceae	<i>Salix lasiandra</i> : <i>Salix lucida</i> ssp. <i>lasiandra</i>	524653	K. Heil	7610	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Salicaceae	<i>Salix lutea</i>	22555	K. Heil	7704	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Salicaceae	<i>Salix lutea</i>	22555	K. Heil	7675	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Scrophulariaceae	<i>Penstemon</i>	33665	K. Heil	7593	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Scrophulariaceae	<i>Penstemon crandallii</i>	33857	K. Heil	7718	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Scrophulariaceae	<i>Penstemon crandallii</i>	33857	K. Heil	7718	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Scrophulariaceae	<i>Penstemon crandallii</i>	33857	K. Heil	7651	6/16/1993	Not Found	Rink, Glenn	8/2006

Table B4, continued. Expected specimens from Salinas Pueblo Missions National Monument not added to the ANCS+ database.

Location of specimen	Family	Original : current scientific name	TSN	Collector	Collection #	Collection date	Reason for not adding to ANCS+ database	Searcher	Search date
SJNM	Solanaceae	<i>Lycium: Solanum elaeagnifolium</i>	30429	K. Heil	7722	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Solanaceae	<i>Solanum elaeagnifolium</i> Cav.	30429	K. Heil	7634	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Verbenaceae	<i>Verbena bracteata</i>	32085	K. Heil	7628	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Verbenaceae	<i>Verbena macdougalii</i> Heller	505661	K. Heil	7677	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Verbenaceae	<i>Verbena racemosa: Glandularia racemosa</i>	502794	K. Heil	7623	6/15/1993	Not Found	Rink, Glenn	8/2006
SJNM	Verbenaceae	<i>Verbena racemosa: Glandularia racemosa</i>	502794	K. Heil	7699	6/16/1993	Not Found	Rink, Glenn	8/2006
SJNM	Verbenaceae	<i>Verbena wrightii: Glandularia wrightii</i>	502798	K. Heil	7615	6/15/1993	Not Found	Rink, Glenn	8/2006

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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U.S. Department of the Interior



Natural Resource Program Center
1201 Oak Ridge Drive, Suite 150
Fort Collins, Colorado 80525

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