

Figure S1

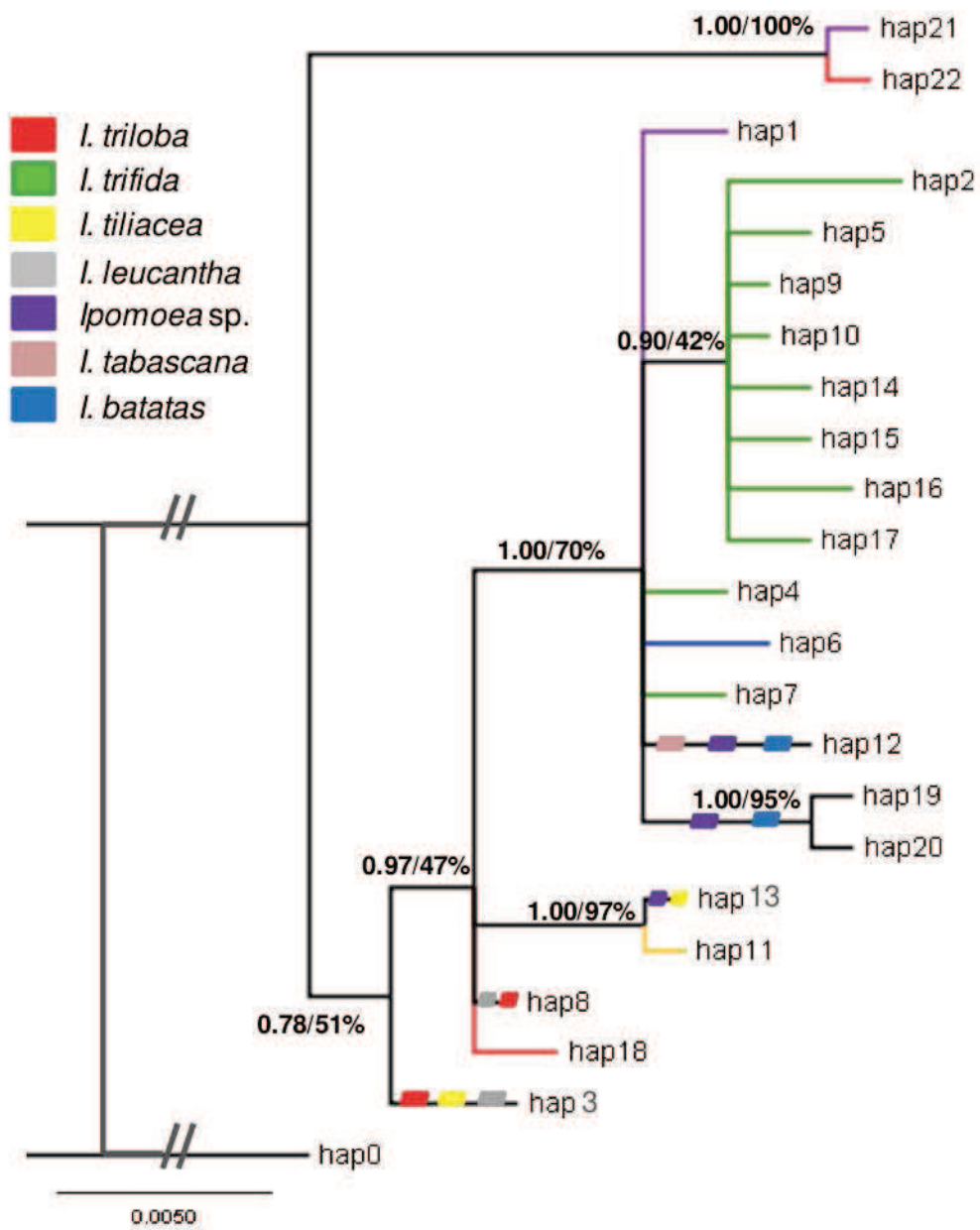
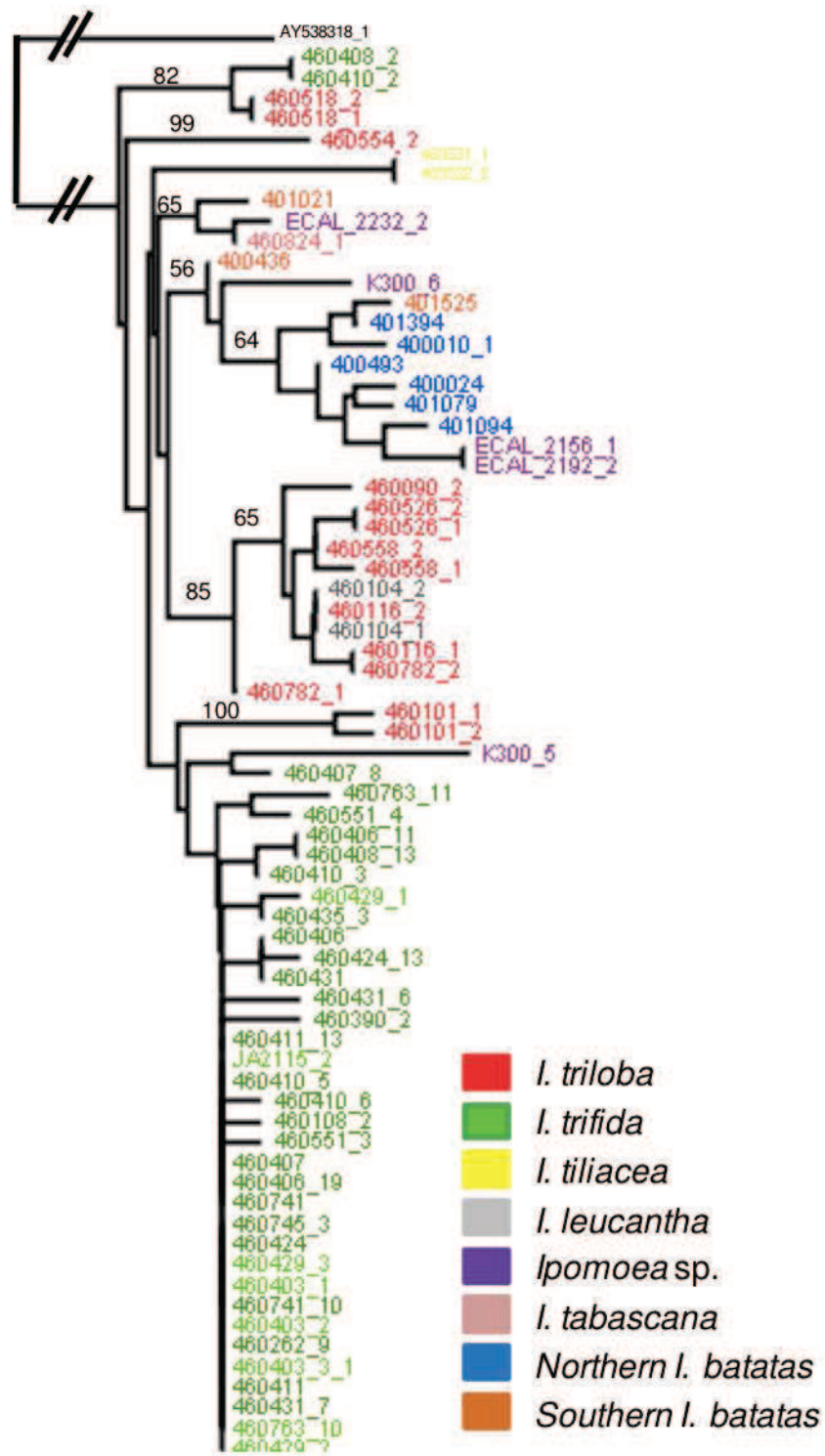


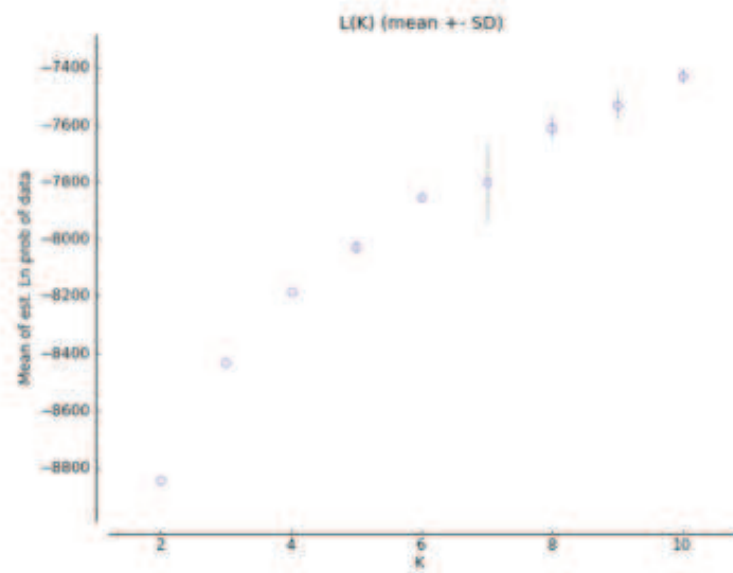
Figure S2



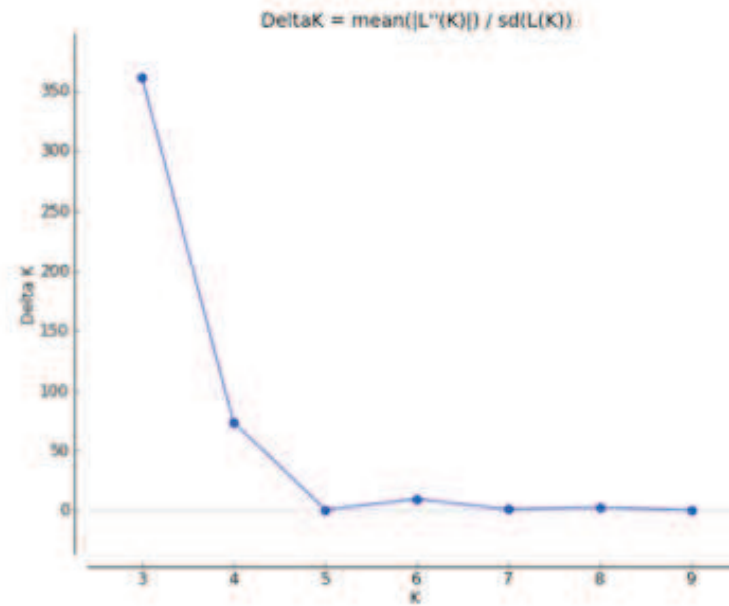
0.02

Figure S3

a)



b)



c)

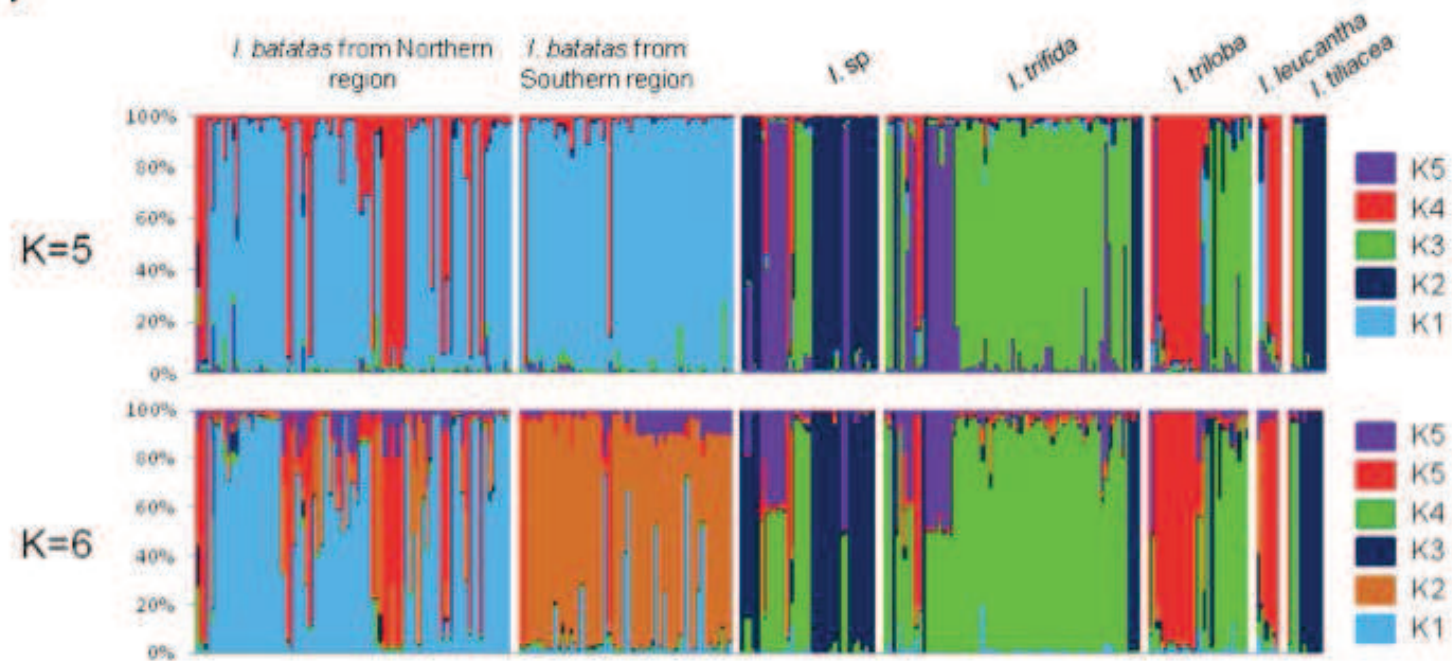
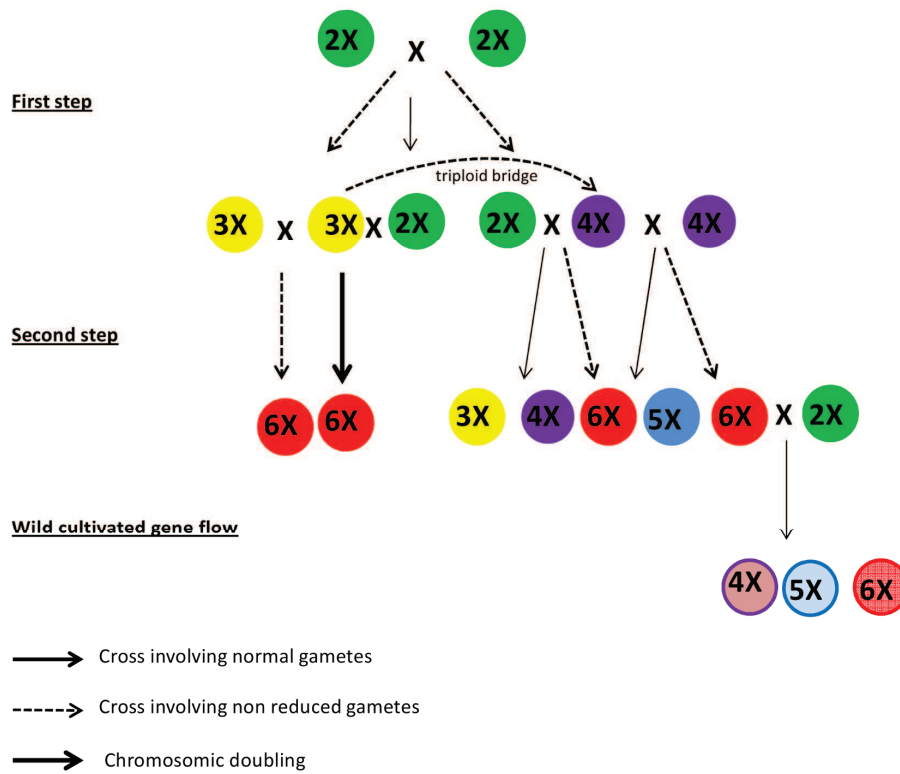


Figure S4



*Triploid bridge: formation of triploids is often considered to mediate the autopolyploidization process. It is also possible that tetraploids, as well as hexaploids, were formed without the intermediate formation of triploids, simply via successive crosses involving  $2n$  gametes (right part of the graph).*

Table S1

Sample number	species	collection	ploidy level	Country	IGS GenBank accessions No	ITS GenBank accessions No	haplo_ITS	haplo_IGS	cp SSRs group	DAPC cluster	Latitude	Longitude
400009	<i>I. batatas</i>	CIP	6X	Mexico					1	2	ND	ND
400010	<i>I. batatas</i>	CIP	6X	Mexico	KC621636	KC621810	10	12	2	2	ND	ND
400024	<i>I. batatas</i>	CIP	6X	Saint Vincent	KC621637	KC621807	7	12	2	2	13.264	-61.19431
400025	<i>I. batatas</i>	CIP	6X	Saint Vincent					1	1	10.33	-67.66
400031	<i>I. batatas</i>	CIP	6X	Puerto Rico					1	1	12.36	-86.66
400032	<i>I. batatas</i>	CIP	6X	Puerto Rico					2	1	12.33	-86.45
400034	<i>I. batatas</i>	CIP	6X	Dominican Republic					2	2	ND	ND
400040	<i>I. batatas</i>	CIP	6X	Jamaica					2	2	18	-77.08
400044	<i>I. batatas</i>	CIP	6X	Argentina					1	1	ND	ND
400166	<i>I. batatas</i>	CIP	6X	Bolivia					1	1	10.66	-74.96
400180	<i>I. batatas</i>	CIP	6X	Bolivia	KC621638			19	1	1	10.66	-74.96
400377	<i>I. batatas</i>	CIP	6X	Colombia					2	3	4.33	-75.61
400382	<i>I. batatas</i>	CIP	6X	Colombia					1	3	4.33	-75.61
400397	<i>I. batatas</i>	CIP	6X	Colombia					1	1	14.31	-90.43
400420	<i>I. batatas</i>	CIP	6X	Colombia					1	1	10.8252	-85.63843
400421	<i>I. batatas</i>	CIP	6X	Colombia					1	1	10.8252	-85.63843
400436	<i>I. batatas</i>	CIP	6X	Colombia	KC621639	KC621806	6	19	1	1	10.8252	-85.63843
400443	<i>I. batatas</i>	CIP	6X	Colombia					2	1	10.8252	-85.63843
400458	<i>I. batatas</i>	CIP	6X	Colombia					1	1	10.25	-74.08
400459	<i>I. batatas</i>	CIP	6X	Colombia					1	1	10.8717	-85.76
400493	<i>I. batatas</i>	CIP	6X	Colombia	KC621640	KC621812	12	12	2	3	3.66	-76.5
400509	<i>I. batatas</i>	CIP	6X	Colombia					1	2	10.41	-73.75
400512	<i>I. batatas</i>	CIP	6X	Colombia	KC621641			12	2	2	8.35	-73.51
400515	<i>I. batatas</i>	CIP	6X	Colombia					2	1	10.25	-74.08
400517	<i>I. batatas</i>	CIP	6X	Colombia					1	2	8.06	-73
400518	<i>I. batatas</i>	CIP	6X	Colombia					1	2	8.33	-73.43
400551	<i>I. batatas</i>	CIP	6X	Costa Rica					1	2	10.4176	-84.43085
400578	<i>I. batatas</i>	CIP	6X	Cuba					2	1	12.36	-86.66
400584	<i>I. batatas</i>	CIP	6X	Cuba					1	2	ND	ND
400602	<i>I. batatas</i>	CIP	6X	Cuba					2	2	ND	ND
400608	<i>I. batatas</i>	CIP	6X	Cuba					1	2	ND	ND
400786	<i>I. batatas</i>	CIP	6X	Dominican Republic					1	2	ND	ND
400815	<i>I. batatas</i>	CIP	6X	Dominican Republic					1	2	18.66	-70.75
400817	<i>I. batatas</i>	CIP	6X	Dominican Republic					2	2	18.66	-70.75
400825	<i>I. batatas</i>	CIP	6X	Dominican Republic					2	2	19.6	-70.5
400828	<i>I. batatas</i>	CIP	6X	Dominican Republic					1	2	19.56	-70.53
400830	<i>I. batatas</i>	CIP	6X	Dominican Republic					1	2	19.16	-70.5
400865	<i>I. batatas</i>	CIP	6X	Dominican Republic					2	2	-0.83	-77.5
400904	<i>I. batatas</i>	CIP	6X	Ecuador					2	1	12.08	-85.33
400908	<i>I. batatas</i>	CIP	6X	Ecuador	KC621642			19	1	1	14.25	-90.7
400929	<i>I. batatas</i>	CIP	6X	Ecuador					2	1	12.15	-86.26
400941	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	14.46	-90.63
400954	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	14.31	-90.43
400955	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	15.73	-89.16
400962	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	15.73	-89.16
400966	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	14.66	-92.16
400968	<i>I. batatas</i>	CIP	6X	Ecuador	KC621643			19	1	1	14.21	-90.33
400982	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	14.25	-90.7
400987	<i>I. batatas</i>	CIP	6X	Ecuador					2	2	-0.16	-78.33
401005	<i>I. batatas</i>	CIP	6X	Ecuador					1	3	4.58	-75.66
401017	<i>I. batatas</i>	CIP	6X	Ecuador	KC621644			20	1	1	14.3	-90.96
401021	<i>I. batatas</i>	CIP	6X	Ecuador	KC621645	KC621863	40	19	1	1	14.3	-90.96
401024	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	12.08	-85.33
401028	<i>I. batatas</i>	CIP	6X	Ecuador					2	2	-2.75	-78.66
401032	<i>I. batatas</i>	CIP	6X	Ecuador					2	2	-3.16	-79.08
401042	<i>I. batatas</i>	CIP	6X	Ecuador					1	1	12.53	-85.76
401055	<i>I. batatas</i>	CIP	6X	Guatemala					1	1	12.15	-86.26
401079	<i>I. batatas</i>	CIP	6X	Guatemala	KC621646	KC621813	13	12	2	3	4.58	-75.66
401083	<i>I. batatas</i>	CIP	6X	Guatemala	KC621647				2	3	3.46065	-76.5239
401094	<i>I. batatas</i>	CIP	6X	Guatemala	KC621648	KC621811	11	12	2	2	16.95	-89.48
401101	<i>I. batatas</i>	CIP	6X	Guatemala					2	2	15.46	-88.81
401114	<i>I. batatas</i>	CIP	6X	Guatemala					1	2	15.31	-89.9
401119	<i>I. batatas</i>	CIP	6X	Guatemala					1	1	12.81	-86.58
401136	<i>I. batatas</i>	CIP	6X	Guatemala					2	3	3.46065	-76.5239
401170	<i>I. batatas</i>	CIP	6X	Jamaica					2	2	18.33	-77.16
401172	<i>I. batatas</i>	CIP	6X	Jamaica					2	2	18.58	-77.25
401183	<i>I. batatas</i>	CIP	6X	Jamaica	KC621649			12	2	2	18.08	-77.16
401200	<i>I. batatas</i>	CIP	6X	Jamaica					1	2	17.83	-77.03
401207	<i>I. batatas</i>	CIP	6X	Mexico					2	1	12.15	-86.26
401208	<i>I. batatas</i>	CIP	6X	Mexico					2	1	12.81	-86.58
401210	<i>I. batatas</i>	CIP	6X	Mexico					2	2	ND	ND
401213	<i>I. batatas</i>	CIP	6X	Mexico					2	2	19.0666	-96.9833
401214	<i>I. batatas</i>	CIP	6X	Mexico					2	2	ND	ND
401215	<i>I. batatas</i>	CIP	6X	Mexico					2	2	21.3166	-97.5
401236	<i>I. batatas</i>	CIP	6X	Panama					1	3	-3.33	-79.91

Table S1 - continued

Sample number	species	collection	ploidy level	Country	IGS GenBank accessions No	ITS GenBank accessions No	haplo_ITS	haplo_IGS	cp SSRs group	DAPC cluster	Latitude	Longitude	
401238	<i>I. batatas</i>	CIP	6X	Panama					2	1	12.4667	-84.38333	
401248	<i>I. batatas</i>	CIP	6X	Panama					2	1	11.36	-74.2	
401251	<i>I. batatas</i>	CIP	6X	Panama					2	3	ND	ND	
401259	<i>I. batatas</i>	CIP	6X	Panama					2	3	22.25	-80	
401264	<i>I. batatas</i>	CIP	6X	Panama					2	3	22.25	-80	
401267	<i>I. batatas</i>	CIP	6X	Panama					2	3	ND	ND	
401269	<i>I. batatas</i>	CIP	6X	Panama	KC621650			12	2	3	0.9338	-79.66736	
401272	<i>I. batatas</i>	CIP	6X	Panama	KC621651				2	3	-3.33	-79.91	
401277	<i>I. batatas</i>	CIP	6X	Panama					1	2	9.13	-79.03	
401280	<i>I. batatas</i>	CIP	6X	Panama					1	1	13.35	-86.43	
401378	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	9.66	-68.66	
401381	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	9.75	-69.66	
401392	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	9.16	-70.16	
401394	<i>I. batatas</i>	CIP	6X	Venezuela	KC621652	KC621809	9	12	2	3	ND	ND	
401396	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	8.66	-71.75	
401399	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	8.33	-71.83	
401403	<i>I. batatas</i>	CIP	6X	Venezuela					2	3	ND	ND	
401430	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	10.1	-66.6	
401431	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	9.4	-67.56	
401436	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	10.26	-63.83	
401437	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	10.25	-63.8	
401445	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	10.08	-63.66	
401446	<i>I. batatas</i>	CIP	6X	Venezuela	KC621653			12		2	10.08	-63.66	
401451	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	9.86	-63.2	
401453	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	10.03	-63.63	
401454	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	10.06	-63.63	
401455	<i>I. batatas</i>	CIP	6X	Venezuela					2	2	10.16	-63.5	
401464	<i>I. batatas</i>	CIP	6X	Venezuela					2	3	ND	ND	
401475	<i>I. batatas</i>	CIP	6X	Mexico					1	2	ND	ND	
401500	<i>I. batatas</i>	CIP	6X	Venezuela					1	1	12.36	-86.66	
401501	<i>I. batatas</i>	CIP	6X	Venezuela					2	3	ND	ND	
401525	<i>I. batatas</i>	CIP	6X	Ecuador	KC621654	KC621808	8	12	2	1	12.15	-86.26	
401533	<i>I. batatas</i>	CIP	6X	Ecuador					2	1	13.3665	-86.50829	
401541	<i>I. batatas</i>	CIP	6X	Dominican Republic					2	2	18.66	-70.75	
401551	<i>I. batatas</i>	CIP	6X	Colombia					1	1	14.21	-90.33	
401559	<i>I. batatas</i>	CIP	6X	Colombia	KC621655			6	2	3	4.33	-75.61	
401560	<i>I. batatas</i>	CIP	6X	Venezuela					1	2	11.1	-63.83	
401587	<i>I. batatas</i>	CIP	6X	Guatemala					1	2	15.3	-91.06	
420027	<i>I. batatas</i>	CIP	6X	Peru	KC621656				1	1	12.08	-85.33	
420031	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.76	-85.4	
420033	<i>I. batatas</i>	CIP	6X	Peru	KC621657				2	1	11.96	-85.56	
420053	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.76	-85.4	
420056	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.08	-85.33	
420079	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.53	-85.76	
420213	<i>I. batatas</i>	CIP	6X	Peru					2	1	11.96	-85.56	
420304	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.01	-85.16	
420309	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.03	-85.16	
420324	<i>I. batatas</i>	CIP	6X	Peru	KC621658				1	1	12.01	-85.16	
420325	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.4667	-84.38333	
420332	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.15	-86.26	
420350	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.15	-86.26	
420361	<i>I. batatas</i>	CIP	6X	Peru					2	2	-11	-78	
420368	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.15	-86.26	
420414	<i>I. batatas</i>	CIP	6X	Peru					2	1	11.96	-85.56	
420607	<i>I. batatas</i>	CIP	6X	Peru					1	1	12.08	-85.33	
420634	<i>I. batatas</i>	CIP	6X	Peru					1	2	-3.83	-80.33	
420793	<i>I. batatas</i>	CIP	6X	Peru					2	1	11.96	-85.56	
420845	<i>I. batatas</i>	CIP	6X	Peru	KC621659				1	1	12.76	-85.4	
421024	<i>I. batatas</i>	CIP	6X	Peru					1	1	11.88	-86.08	
421027	<i>I. batatas</i>	CIP	6X	Peru					1	1	11.43	-85.86	
421091	<i>I. batatas</i>	CIP	6X	Peru					1	1	11.43	-85.86	
421100	<i>I. batatas</i>	CIP	6X	Peru						1	12.33	-86.45	
421128	<i>I. batatas</i>	CIP	6X	Peru	KC621660				1	1	12.01	-85.16	
441724	<i>I. batatas</i>	CIP	6X	Mexico					2	3	3.46065	-76.5239	
460002_1	<i>Ipomoea leucanth</i>	CIP	2X	Ecuador	KC621675				3	5	9.91	-75.33	
460002_2	<i>Ipomoea leucanth</i>	CIP	2X	Ecuador	KC621676				3	5	11.25	-73.61	
460003_1	<i>Ipomoea leucanth</i>	CIP	2X	Peru	KC621677				8	5	11.5	-72.83	
460003_2	<i>Ipomoea leucanth</i>	CIP	2X	Peru	KC621678				8	5	1.16	-78.41	
460104_1	<i>Ipomoea leucanth</i>	CIP	2X	Colombia	KC621697	KC621860	38	3		5	11.36	-74.2	
460104_2	<i>Ipomoea leucanth</i>	CIP	2X	Colombia	KC621698	KC621858	38	3		5	8.08	-73.16	
403248_2	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621663				12	2	4	14.51	-91.25
403248_3	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621664				12	2	3	9.16	-70.16
403261_1	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621665				1	4	14.53	-90.76	
403261_2	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621666				1	4	14.4166	-90.25	
403261_3	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621667				12	2	4	ND	ND

Table S1 - continued

Sample number	species	collection	ploidy level	Country	IGS GenBank accessions No	ITS GenBank accessions No	haplo_ITS	haplo_IGS	cp SSRs group	DAPC cluster	Latitude	Longitude
403270_1	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621668			12	2	4	8.75	-78.46
403270_2	<i>Ipomoea sp.</i>	CIP	4X	Colombia	KC621669			12	2	4	8.13	-78.03
403552_1	<i>Ipomoea sp.</i>	CIP	4X	Ecuador	KC621670			19	1	1	18.8493	-97.09889
403552_2	<i>Ipomoea sp.</i>	CIP	4X	Ecuador	KC621671			19	1	1	18.8493	-97.09889
403959_1	<i>Ipomoea sp.</i>	CIP	4X	Mexico	KC621672			19	1	3	18.8493	-97.09889
403959_2	<i>Ipomoea sp.</i>	CIP	4X	Mexico	KC621673			12	2	3	15.5595	-88.96729
403959_3	<i>Ipomoea sp.</i>	CIP	4X	Mexico	KC621674			20	1	3	19.5443	-96.92001
460029_1	<i>Ipomoea sp.</i>	CIP	2X	Ecuador	KC621682			21	1	4	8.8	-78.5
460029_2	<i>Ipomoea sp.</i>	CIP	2X	Ecuador	KC621683			21			-3.33	-79.91
460029_3	<i>Ipomoea sp.</i>	CIP	2X	Ecuador	KC621684			21	1	4	9.16	-70.16
AL_2145(1)	<i>Ipomoea sp.</i>	NIAS	4X	Guatemala	KC621773			12	2	3	14.6221	-90.53284
AL_2156(1)	<i>Ipomoea sp.</i>	NIAS	4X	Guatemala	KC621774	KC621814	14	12	2	3	3.66	-76.5
CAL_2192	<i>Ipomoea sp.</i>	NIAS	4X	Guatemala		KC621815	14				15.1153	-89.36142
AL_2232(3)	<i>Ipomoea sp.</i>	NIAS	4X	Guatemala	KC621775	KC621864	41	12	2	3	0.9338	-79.66736
CAL_2262	<i>Ipomoea sp.</i>	NIAS	4X	Mexico	KC621776			12	2	3	ND	ND
K123_1	<i>Ipomoea sp.</i>	NIAS	6X	Mexico	KC621789			12	2	3	16.91	-92.16
K123_10	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	16.91	-92.16
K123_11	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	16.91	-92.16
K123_12	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_14	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_18	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_20	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_4	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_5	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_8	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K123_9	<i>Ipomoea sp.</i>	NIAS	6X	Mexico						3	18.8493	-97.09889
K177_2	<i>Ipomoea sp.</i>	NIAS	6X	Mexico	KC621791			12	2	3	17.5516	-92.95343
K222_2	<i>Ipomoea sp.</i>	NIAS	3X	Mexico	KC621792			12	2	4	8.58	-71.08
K300_3	<i>Ipomoea sp.</i>	NIAS	4X	Ecuador	KC621794						0.9338	-79.66736
K300_5	<i>Ipomoea sp.</i>	NIAS	4X	Ecuador		KC621802	2		NA	3	8.83	-70.5
K300_6	<i>Ipomoea sp.</i>	NIAS	4X	Ecuador	KC621795	KC621816	15	12	2	4	9.08	-78.91
K300_7	<i>Ipomoea sp.</i>	NIAS	4X	Ecuador	KC621796			19	1	1	17.58	-91.25
K500_1	<i>Ipomoea sp.</i>	NIAS	4X	Colombia	KC621797			12	2	4	8.58	-79.96
K500_2	<i>Ipomoea sp.</i>	NIAS	4X	Colombia	KC621798			12	2	4	8.1	-81.03
K500_4	<i>Ipomoea sp.</i>	NIAS	4X	Colombia	KC621799			12	2	4	8.16	-80.43
460824_1	<i>moea tabasacai</i>	CIP	4X	Mexico	KC621771	KC621865	42	12	2	3	17.58	-91.25
460824_2	<i>moea tabasacai</i>	CIP	4X	Mexico	KC621772			12	2	3	10.43	-73.2
460070_1	<i>Ipomoea tiliacea</i>	CIP	4X	Mexico	KC621691			3		5	10.5	-73.2
460531_1	<i>Ipomoea tiliacea</i>	CIP	4X	Cuba	KC621754	KC621801	1	13		4	10.43	-73.2
460531_2	<i>Ipomoea tiliacea</i>	CIP	4X	Cuba	KC621755	KC621800	1	13		4	-3.75	-79.91
K134_1	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico	KC621790			11		4	-3.75	-79.91
K134_2	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico						4	-8.66	-74.33
K270_1	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico						4	17.83	-93.33
K270_2	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico						4	12.01	-85.16
K270_5	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico						4	12.03	-85.16
K270_8	<i>Ipomoea tiliacea</i>	NIAS	4X	Mexico	KC621793			13		4	-8.66	-74.33
460551_1	<i>Ipomoea trifida</i>	CIP	2X	Cuba		KC621834	22				23	-82.5
460551_2	<i>Ipomoea trifida</i>	CIP	2X	Cuba		KC621825	31				23	-82.5
460266	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621661			9		4	18.66	-89.33
460371	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621662			9			11.88	-85.95
460021_3	<i>Ipomoea trifida</i>	CIP	2X	Venezuela	KC621681			9		4	-13	-73
460108_1	<i>Ipomoea trifida</i>	CIP	2X	Colombia	KC621699	KC621832	29	9		4	10.5	-73.2
460108_2	<i>Ipomoea trifida</i>	CIP	2X	Colombia	KC621700			9		4	3.41	-76.58
460132_2	<i>Ipomoea trifida</i>	CIP	2X	Colombia	KC621703			9			ND	ND
460137_1	<i>Ipomoea trifida</i>	CIP	2X	Colombia	KC621704			9		4	3.41	-76.58
460137_3	<i>Ipomoea trifida</i>	CIP	2X	Colombia	KC621705			9		4	4.96	-74.58
460262_5	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621706			9		4	18.66	-89.33
460262_6	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621707			15		1	-3.5	-80.5
460262_9	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621708	KC621841	32	9		4	-1.66	-79.5
460274_5	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621709			9		4	-12.58	-69.33
460274_6	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621710			9		4	-12.58	-69.33
460375_7	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621711			9		4	0.5	-78.16
460378_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621712			9		4	0.5	-78.08
460378_3	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621713			9		4	-2.16	-78.91
460379_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621714			9		4	-3.33	-79.41
460379_10	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621715			9		4	-0.16	-76.91
460379_6	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621716			9		4	-0.16	-76.91
460380_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621717			9		4	-1.46	-78.13
460385_18	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621718			9		4	-2.33	-79.16
460385_19	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621719			9		4	14.28	-89.81
460387_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621720			9		4	22.6748	-101.792
460387_3	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621721			14		4	-9.16	-77.83
460387_4	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621722			9		4	7.75	-80.71
460388_11	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621723			9		4	-7.75	-78.16
460388_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621724			9		4	-13	-76.5

Table S1 - continued

Sample number	species	collection	ploidy level	Country	IGS GenBank accessions No	ITS GenBank accessions No	haplo_ITS	haplo_IGS	cp SSRs group	DAPC cluster	Latitude	Longitude
460390_10	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621725			9		4	-14	-76
460390_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621726	KC621826	23	9		4	8.08	-73.05
460403_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621727	KC621838	32	9		4	2.36	-77.66
460403_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621728	KC621840	32	9		4	2.41	-75.86
460403_3	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621729			9		4	-11.27	-76.81
460406_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621730	KC621824	21	9		4	-18.83	-64.83
460406_19	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621731	KC621848	32	9		4	-1.66	-79.08
460407_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621732	KC621847	32	9		4	-0.83	-76.5
460407_8	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621733	KC621821	18	9		4	10.16	-66.66
460408_13	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621734	KC621830	27	9		4	1.46	-77.58
460408_14	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621735			9		4	-9.25	-77.83
460408_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621736	KC621817	16	9		4	10.16	-66.66
460410_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621737	KC621818	16	9		5	-12	-77
460410_3	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621738	KC621833	30	9		4	1.6	-76.91
460410_5	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621739	KC621849	32	9		4	0.58	-71.5
460410_6	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621740	KC621831	28	16		4	1.5	-77.33
460411_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621741	KC621842	32	9		5	-15	-75.5
460411_13	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621742	KC621843	32	9		4	-1.41	-78.41
460424_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621743	KC621852	32	9		4	-3.5	-78.58
460424_13	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621744	KC621829	26	9		4	1.3	-77.16
460429_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621745	KC621827	24	9		4	1.16	-77.53
460429_2	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621746	KC621850	32	17		4	-0.66	-78.16
460429_3	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621747	KC621837	32	9		4	-3.63	-79.75
460431_1	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621748	KC621835	21	9		4	-17	-65.66
460431_6	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621749	KC621823	20	9		4	-27.83	-63.66
460431_7	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua	KC621750	KC621844	32	9		4	-3.66	-79.75
460435_11	<i>Ipomoea trifida</i>	CIP	2X	Nicaragua		KC621828	25			4	1.25	-77.25
460736_2	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621762			9		4	10.33	-67.66
460741_1	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621763	KC621851	32	10		4	-2.16	-79.91
460741_10	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621764	KC621839	32	9		4	-1.66	-79.5
460745_3	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621765	KC621836	32	9		4	ND	ND
460745_4	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621766			14		4	10.33	-67.66
460763_10	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621767	KC621846	32	9		4	ND	ND
460763_11	<i>Ipomoea trifida</i>	CIP	2X	Guatemala	KC621768	KC621822	19	7		4	18.46	-69.96
Grif 6197_3	<i>Ipomoea trifida</i>	USDA	2X	Mexico	KC621777			5			16.21	-98.16
Grif 6197_5	<i>Ipomoea trifida</i>	USDA	2X	Mexico	KC621778			9			16.21	-98.16
Grif 6198_6	<i>Ipomoea trifida</i>	USDA	2X	Mexico	KC621779			9			16.1	-93.15
Grif 6204_2	<i>Ipomoea trifida</i>	USDA	2X	Mexico	KC621780			9			ND	ND
Grif 6207_1	<i>Ipomoea trifida</i>	USDA	2X	Mexico	KC621781			4			ND	ND
JA 0100_1	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621782			9			10.8252	-85.63843
JA 0115_3	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621783			9			10.4797	-85.08
JA0100_3	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621784			9		4	4.11	-74.86
JA0100_4	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621785			9		4	21.75	-80
JA0105_1	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621786			9		4	18.46	-69.96
JA0105_2	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621787			2		4	4.11	-74.86
JA0115_2	<i>Ipomoea trifida</i>	USDA	2X	Costa Rica	KC621788	KC621845	32	2		4	4.96	-74.58
460012_1	<i>Ipomoea triloba</i>	CIP	2X	Venezuela	KC621679			3		5	13.264	-61.19431
460012_2	<i>Ipomoea triloba</i>	CIP	2X	Venezuela	KC621680			3		5	14.31	-90.43
460039_1	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621685			3		5	-7.7	-79.41
460039_2	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621686			3		5	-12	-77
460044_1	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621687			3		5	-7.55	-78.5
460044_2	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621688			3		5	-10.25	-70.96
460052_1	<i>Ipomoea triloba</i>	CIP	2X	Venezuela	KC621689			3		5	0.9338	-79.66736
460052_2	<i>Ipomoea triloba</i>	CIP	2X	Venezuela	KC621690			3		5	8.36	-81.23
460090_1	<i>Ipomoea triloba</i>	CIP	2X	Dominican Republic	KC621692			3		5	0.86	-79.16
460090_2	<i>Ipomoea triloba</i>	CIP	2X	Dominican Republic	KC621693	KC621853	33	3		5	-26.81	-56.9
460100_1	<i>Ipomoea triloba</i>	CIP	2X	Ecuador	KC621694			3		5	ND	ND
460101_1	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621695	KC621804	4	22		4	-14	-76.5
460101_2	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621696	KC621805	5	22		4	-15.5	-74.5
460116_1	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621701	KC621861	39	3		5	-8.51	-78.8
460116_2	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621702	KC621859	38	3		5	-11.18	-74.68
460518_1	<i>Ipomoea triloba</i>	CIP	2X	Ecuador	KC621751	KC621820	17	8		5	8.58	-71.16
460518_2	<i>Ipomoea triloba</i>	CIP	2X	Ecuador	KC621752	KC621819	17	3		5	0.86	-79.16
460526_2	<i>Ipomoea triloba</i>	CIP	2X	Cuba	KC621753	KC621855	35	3		5	-14	-76
460554_1	<i>Ipomoea triloba</i>	CIP	2X	Mexico	KC621756			18		5	-6.33	-76.53
460554_2	<i>Ipomoea triloba</i>	CIP	2X	Mexico	KC621757	KC621803	3	18		5	8.9	-79.73
460558_1	<i>Ipomoea triloba</i>	CIP	2X	Peru	KC621758	KC621856	36	3		5	-4.5	-80
460558_2	<i>Ipomoea triloba</i>	CIP	2X	Peru	KC621759	KC621857	37	3		5	-24.08	-59.16
460658_1	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621760			18		5	-6.83	-78.01
460658_2	<i>Ipomoea triloba</i>	CIP	2X	Colombia	KC621761			18		5	-9.5	-77.83
460782_1	<i>Ipomoea triloba</i>	CIP	2X	Ecuador	KC621769	KC621854	34	3		5	21.8819	-78.6438
460782_2	<i>Ipomoea triloba</i>	CIP	2X	Ecuador	KC621770	KC621862	39	3		5	15.05	-90.23



Table S2

Region	Country	<i>I. batatas</i>			<i>I. trifida</i>			<i>I. triloba</i>			<i>Ipomoea sp.</i>			<i>I. tabascana</i>			<i>I. tiliacea</i>			<i>I. leucantha</i>			
		IGS	ITS	SSR	IGS	ITS	SSR	IGS	ITS	SSR	IGS	ITS	SSR	IGS	ITS	SSR	IGS	ITS	SSR	IGS	ITS	SSR	
<b>Northern</b>	<i>Mexico</i>	1	1	10	4 (5)			1 (2)	1 (1)	1 (2)	6 (7)		5 (17)	1 (2)	1 (1)	1 (2)	3 (3)			3 (7)			
	<i>Guatemala</i>	3	2	9	7 (13)	4 (6)	7 (13)				3 (3)	3 (3)	3 (3)										
	<i>Nicaragua</i>				18 (41)	11 (24)	18 (42)	1 (1)	1 (2)	1 (1)													
	<i>Costa Rica</i>			1	3 (7)		3 (5)																
	<i>Panama</i>	2		11																			
	<i>Jamaica</i>	1		5																			
	<i>Saint Vincent</i>	1	1	2																			
	<i>Dominican Republic</i>		9					1 (2)	1 (1)	1 (2)													
	<i>Cuba</i>			4		1 (2)											1(2)	1 (2)	1 (2)				
	<i>Colombia</i>	3	1	8	3 (5)		2 (4)	1 (2)		1 (2)													
	<i>Venezuela</i>	2	1	21	1 (1)		1 (1)	1 (2)	1 (1)	1 (2)													
<b>Total Northern</b>	<b>13</b>	<b>6</b>	<b>80</b>	<b>36 (72)</b>	<b>16 (32)</b>	<b>31 (65)</b>	<b>5 (9)</b>	<b>4 (5)</b>	<b>5 (9)</b>	<b>9 (10)</b>	<b>3 (3)</b>	<b>8 (20)</b>	<b>1 (2)</b>	<b>1 (1)</b>	<b>1 (2)</b>	<b>4 (5)</b>	<b>1 (2)</b>	<b>4 (9)</b>					
<b>Southern</b>	<i>Ecuador</i>	5	2	20				4 (5)	2 (3)	4 (5)	3 (8)	2 (2)	3 (7)								1(2)	1 (2)	
	<i>Peru</i>	5		25				1 (2)	1 (1)	1 (2)											1(2)	1 (2)	
	<i>Colombia</i>	1	1	9				4 (8)	2 (4)	4 (8)	5 (10)		4 (10)								1(2)	1(2)	1 (2)
	<i>Bolivia</i>	1		2																			
	<i>Argentina</i>			1																			
	<i>Paraguay</i>			2																			
	<b>Total Southern</b>	<b>12</b>	<b>3</b>	<b>59</b>				<b>9 (15)</b>	<b>5 (8)</b>	<b>9 (15)</b>	<b>8 (18)</b>	<b>2 (2)</b>	<b>7 (17)</b>								<b>3 (6)</b>	<b>1 (2)</b>	<b>3 (6)</b>
<b>Total</b>	<b>38</b>	<b>9</b>	<b>139</b>	<b>36 (72)</b>	<b>16 (32)</b>	<b>31(65)</b>	<b>15 (26)</b>	<b>9 (1)</b>	<b>14 (26)</b>	<b>17 (28)</b>	<b>5 (5)</b>	<b>15 (37)</b>	<b>1 (2)</b>	<b>1 (1)</b>	<b>1 (2)</b>	<b>4(5)</b>	<b>1 (2)</b>	<b>4 (9)</b>	<b>3 (6)</b>	<b>1 (2)</b>	<b>3 (6)</b>		