Supplementary Materials for: Diversification of ergot alkaloids and heritable fungal symbionts in morning glories

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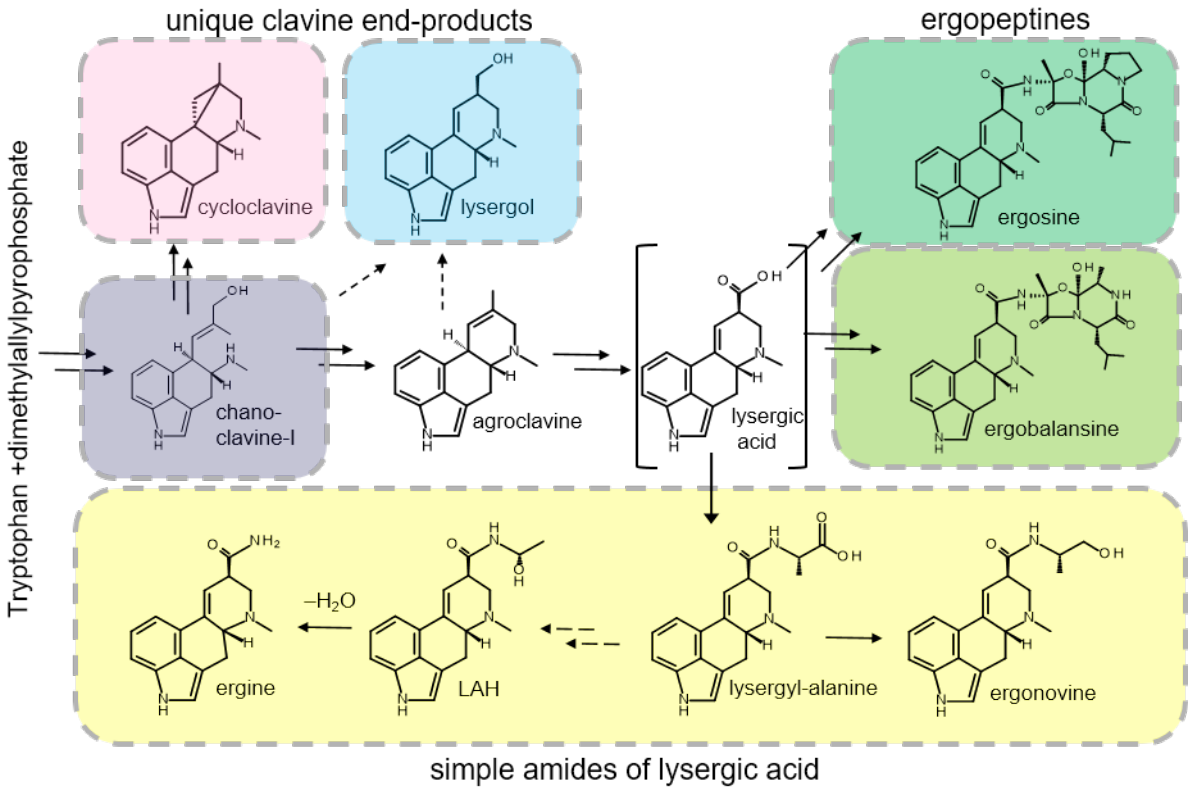

Figure S1. Diversification of EAs produced in Convolvulaceae-*Periglandula* symbioses. Double arrows indicate one or more omitted intermediates. Dashed arrows indicate uncharacterized steps. Lysergic acid is bracketed to indicate that it is not typically considered a clavine and, as a transient intermediate, typically is not detected in analyses. Colored boxes represent the six distinct EA chemotypes used in PCAs (See Materials and Methods).

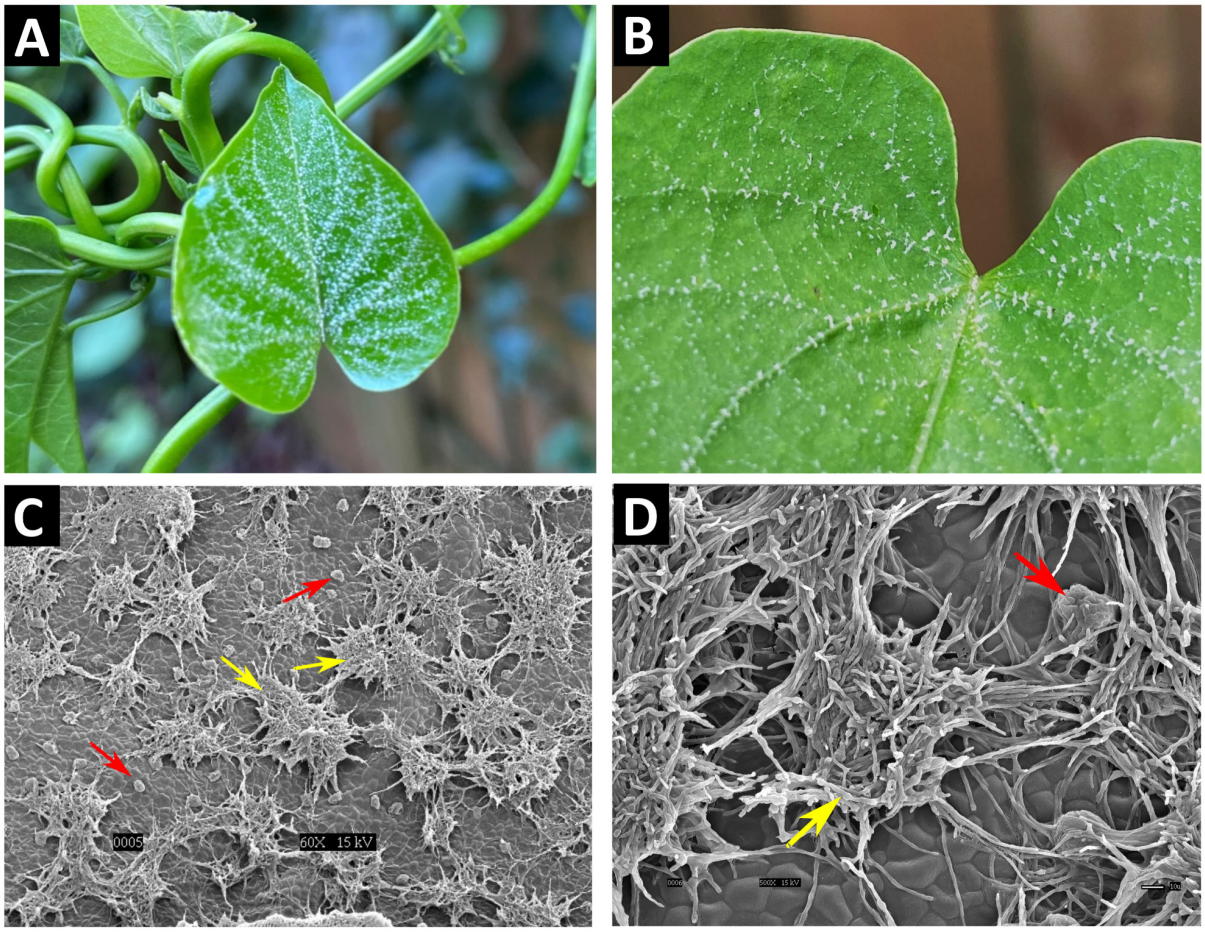

Figure S2. Epiphytic fungal colonies. A,B) Colonies growing along the leaf veins of *Ipomoea corymbosa*. **C,D)** Scanning electron microscope images of fungal colonies (indicated by yellow arrows) closely associated with oil glands (indicated by red arrows).

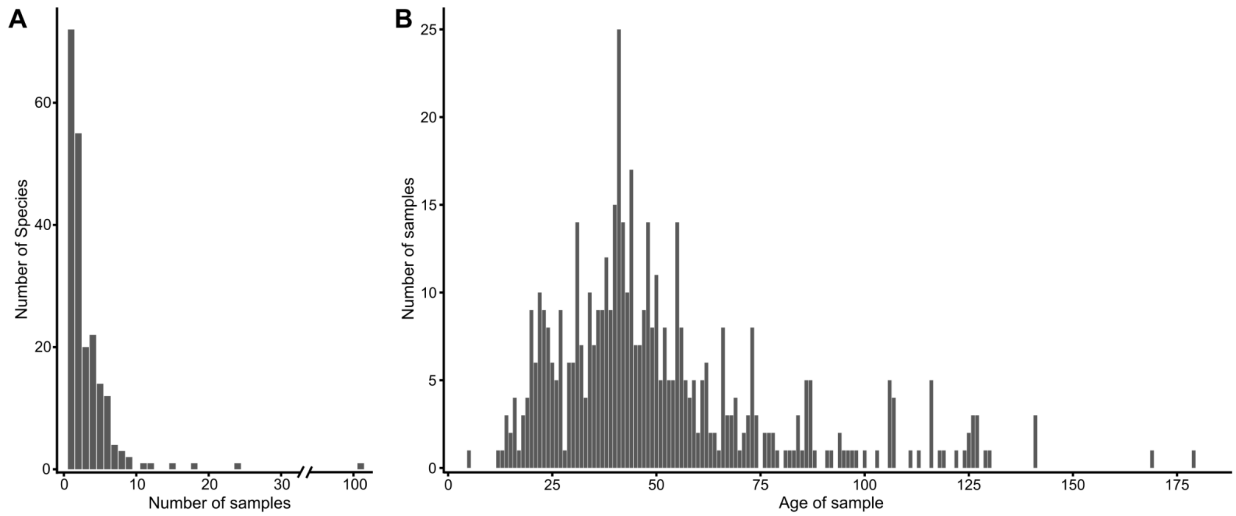

Figure S3. Sample and sample age distribution. A) Sample distribution among surveyed species; **B)** Sample age distribution among samples with an available year of collection.

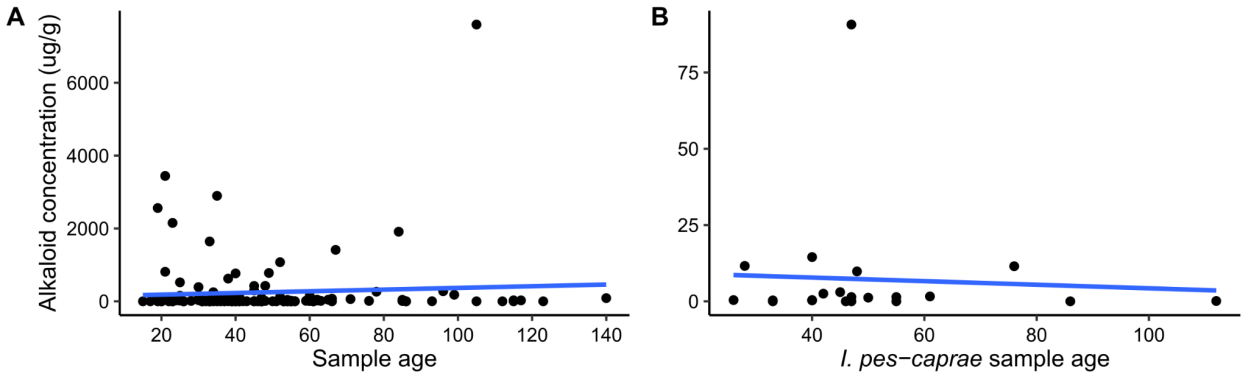

Figure S4. Ergot alkaloid concentration variation based on sample age in **A)** all EA+ samples, and **B)** *Ipomoea pes-caprae*.

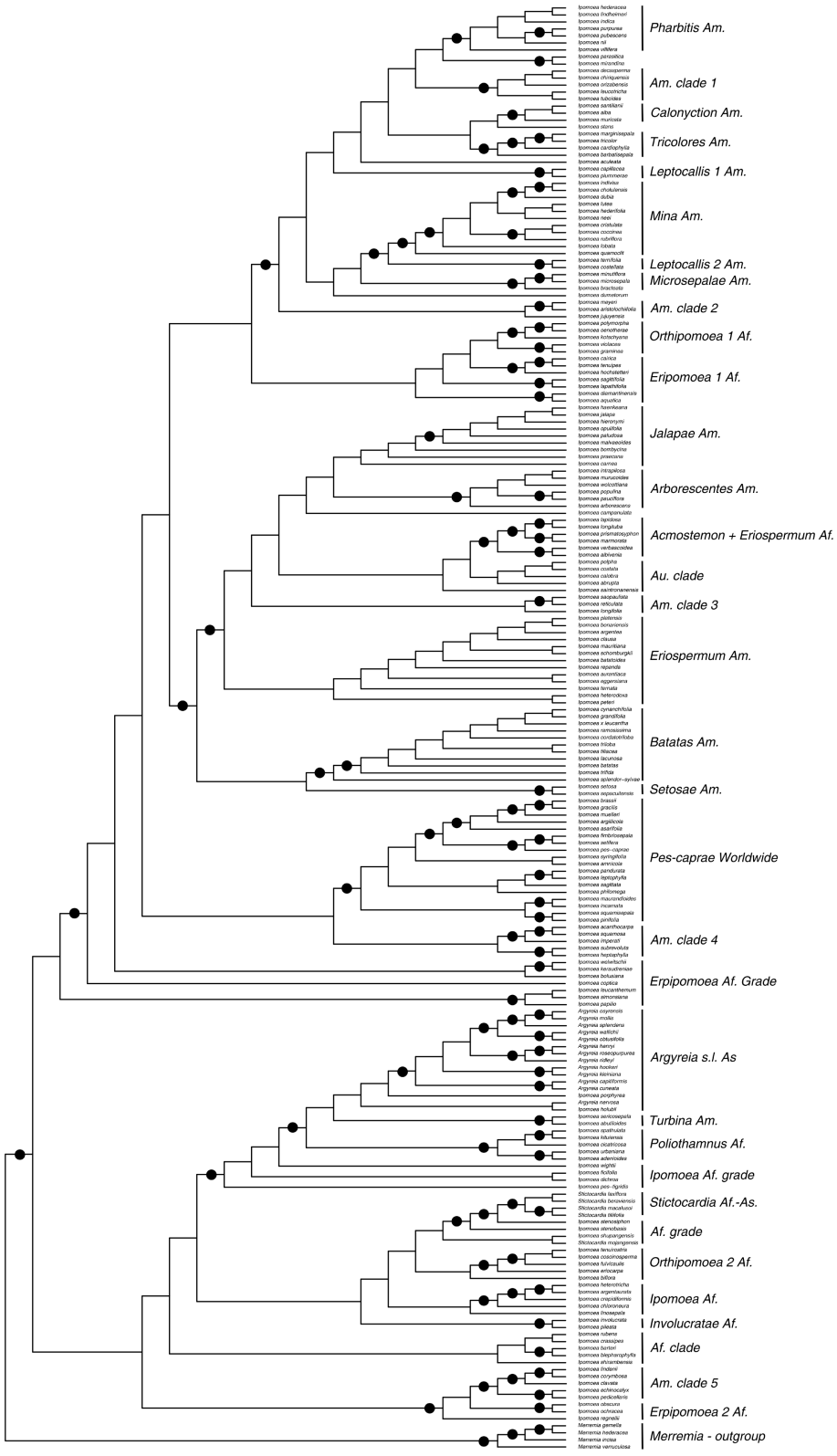

Figure S5. Maximum likelihood ITS phylogeny with clade denotation. Nodes with bootstrap support >75 are represented by a black circle. Af, African; Am, American; As, Asian; Au, Australian.

Figure S6. Density map of Bayesian stochastic character probabilities of alkaloid positive (blue) and alkaloid negative (orange) character states. Legend length equals units of substitution per site.

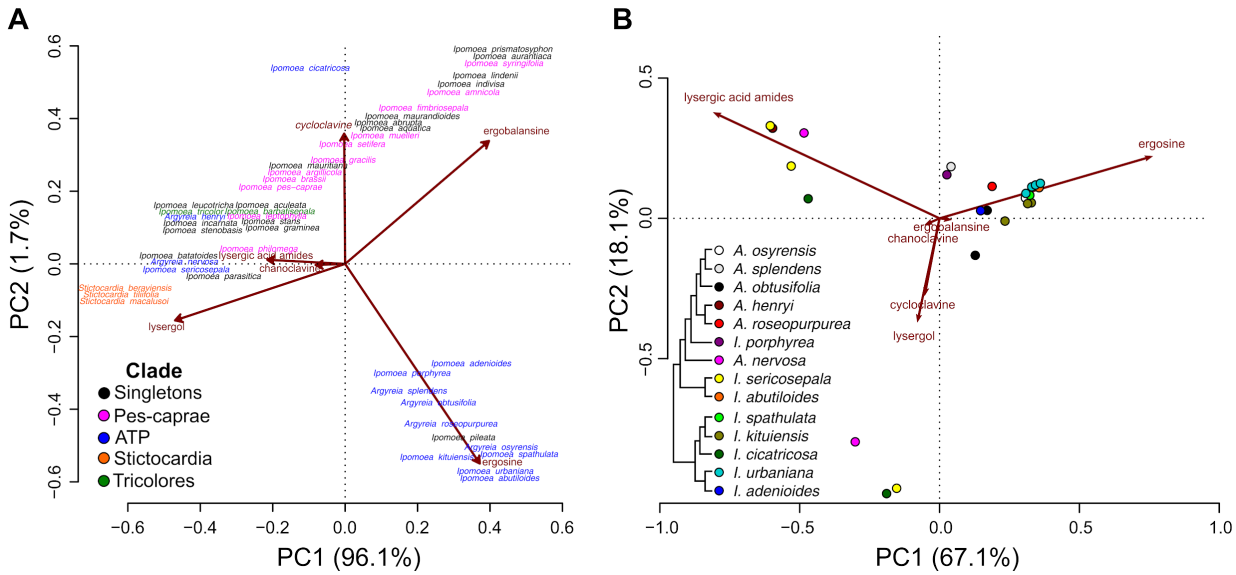

Figure S7. Clustering of alkaloid chemotypes in alkaloid-positive species. **A)** Phylogenetic PCA showing differences in EA profile of different clades of morning glory, represented by different colors. Alkaloid values are averaged for each species. "Singletons" are clades with only one positive taxa each. **B)** PCA showing differences in EA profiles of different species in the ATP clade.

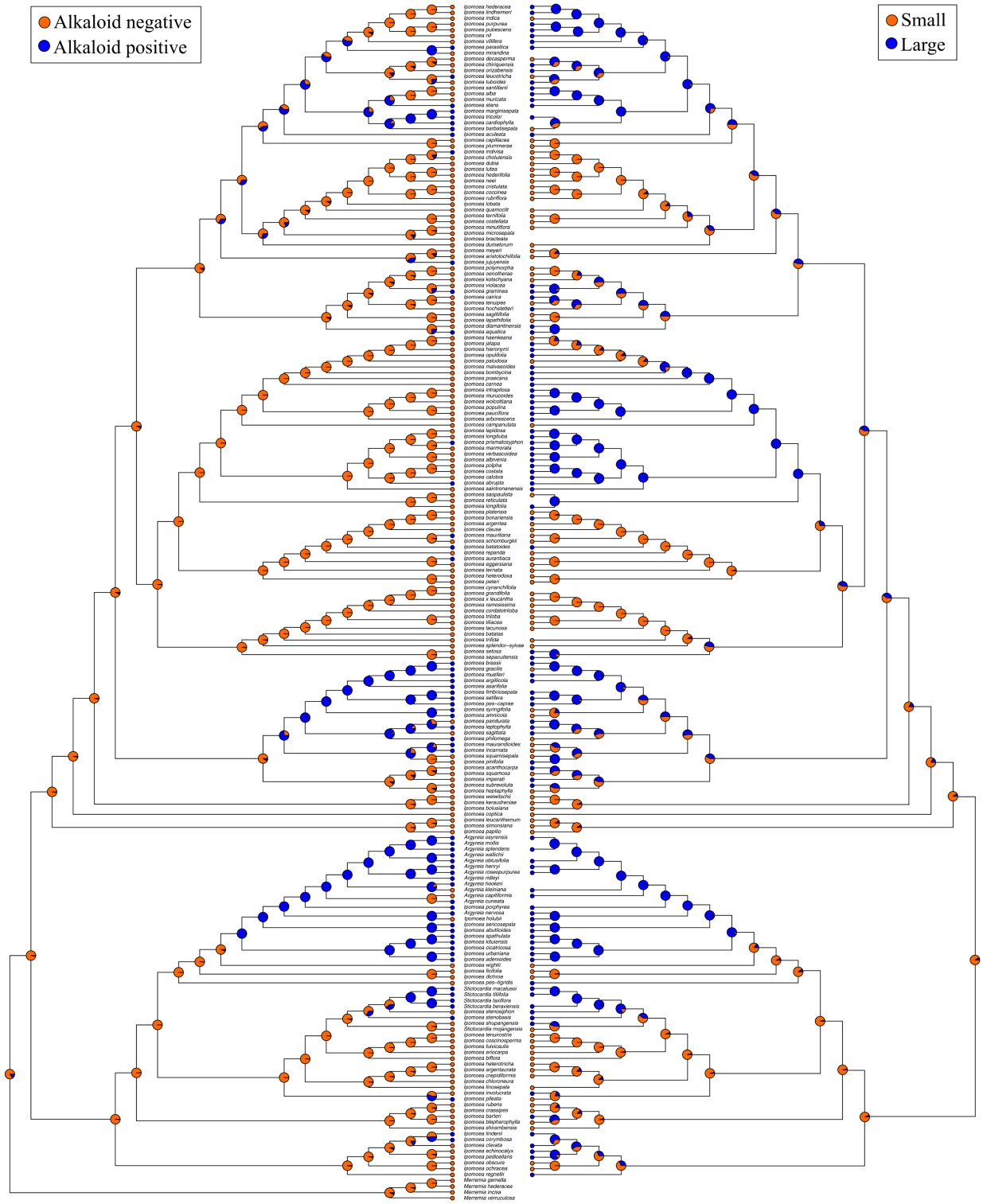

Figure S8. Comparison of the ancestral state reconstruction of alkaloid presence (left) and seed size (right). Circles at the tips represent current state and pie charts at nodes indicate the relative probability of the ancestral character state.

Figure S9. ITS phylogeny of morning glories with EAs. ITS phylogeny adapted from Munoz et al.[27] colorized with our EA data. Orange species are EA- and blue species are EA+. Available at https://doi.org/10.6084/m9.figshare.14749512.

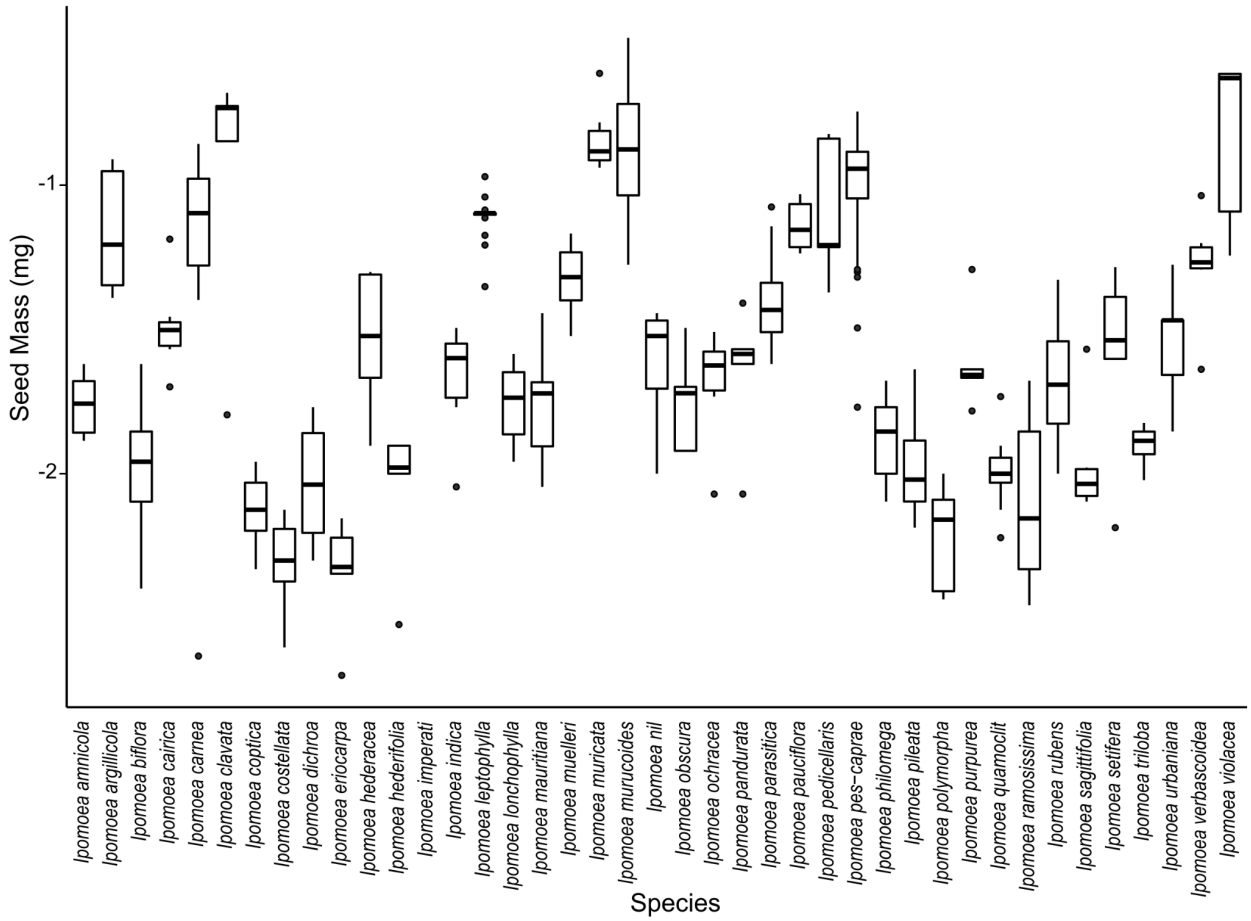

Figure S10. Seed mass variation in species with five or more samples. Seed mass were log10 transformed.

Table S1. Sampling information and results. Naming authority and geographic information were collected from the World Checklist of Selected Families at https://wcsp.science.kew.org.

Species	Authority	Number of Accessions	Number of Accessions with Ergot Alkaloids	Average Ergot Alkaloid Concentration (µg/g)	Average Latitude	Average Seed Mass	Previous Designation (Eich 2008)	Geographical Distribution
A. capitiformis	(Poir.) Ooststr	2	0		19.1	38		
A. henryi†	(Craib) Craib	2	2	67.1	19.1	48		China to N. Thailand
A. hirsuta	Wight Arn.	1	0		7.5	110		
A. hirsutissima	(C.B.Clarke) Thoth.	1	0		22.2	34		
A. kleiniana	(Schult.) Raizada	1	0		7.5	79		
A. nervosa	(Burm.f.) Bojer	2	2	46	20.55	54	Positive	India to Myanmar
A. obtusifolia	Lour.	4	2	94.2	22.1	50.5	Positive	S. China to Indo-China
A. osyrensis†	(Roth) Choisy	1	1	117.1	13	27		S. India to Hainan and N. Sumatera
A. roseopurpurea†	(Kerr) Ooststr.	1	1	181.8	7.6	99		Thailand to Malaysia
A. splendens	(Hornem.) Sweet	1	1	877.6	24.3	153	Positive	N.E. India to China
D. dissectus	(Jacq.) A.R.Simões & Staples	1	0		-19	4		
I. abrupta†	R. Br.	1	1	26.7	-13.5	30		N. & NE. Australia
I. abutiloides	(Kunth) G.Don	2	1	248.8	4.2	94	Positive	Panama to S. Trop. America
I. acanthocarpa	(Choisy) Hochst. ex Schweinf. & Asch.	4	0		13.525	38.25		
I. aculeata†	Blume	1	1	529.3	-23.2	137		SW. India, Bangladesh to Hainan and Malesia, N. & E. Queensland
I. adenioides†	Schinz	1	1	9	-22.1	39	Devoid	S. Trop. & S. Africa

I. alba	L.	1	0			215	Devoid	
I. albivenia	(Lindl.) Sweet	2	0		-17	72	Devoid	
I. alexandrae	D.F.Austin	1	0			36		
I. amnicola	Morong	8	7	430.2	18.3	18	Positive	W. & S. South America to Brazil
I. anisomeres	B.L.Rob. & Bartlett	2	0		-4.1	20		
I. antonschmidii†	R.W.Johnson	1	1	22.9	-18.7	29		NC. Northern Territory to NW. Queensland
I. aquatica†	Forssk.	4	2	99.8	2.7	43	Contradictory	Tropical & Subtropical Old World
I. arborescens	(Humb. & Bonpl. ex Willd.) G.Don	2	0		23.3	53	Devoid	
I. argentaurata	Hallier f.	2	0		9.1	8		
I. argentea	Meisn.	2	0		-14	6		
I. argillicola	R.W.Johnson	6	6	113.8	-20.3	77	Positive	W. & S. South America to Brazil
I. aristolochiifolia	G.Don	3	0		11.9	11	Positive	
I. aurantiaca†	L.O.Williams	2	1	6.2	11.8	11		SE. Mexico to C. America
I. barbatisepala†	A.Gray	2	2	56.2	31.8	24		Arizona to Texas, W. Mexico
I. barteri	Baker	2	0		-15.5	55		
I. batatoides†	Choisy	3	1	3634.1	-2.1	37	Devoid	Mexico to S. Trop. America
I. biflora	(L.) Pers.	18	0		-8.15	12.4	Devoid	
I. blepharophylla	Hallier f.	1	0		9	14		
I. bolusiana	Schinz	2	0		-22.6	22		
I. bombycina	(Choisy) Benth. & Hook.f. ex Hemsl.	2	0		5	26		
I. bonariensis	Hook.	1	0		-27.1	33	Devoid	
I. brassii†	C.T.White	1	1	19.9	-18.6	29		N. & NE. Australia
I. cairica	(L.) Sweet	8	0		1.3	34.1	Contradictory	

I. calantha	Griseb.	2	0		9.7	28		
I. calobra	F.Muell.	1	0		-25.4	99		
I. campanulata	L.	1	0		18.8	9		
I. capillacea	(Kunth) G.Don	4	0		12.9	4		
I. carnea	Jacq.	11	0		6.9	77.8	Contradictory	
I. cavalcantei	D.F.Austin	1	0		-5.3	20		
I. chiriquensis	Standl.	1	0			30		
I. cholulensis	Kunth	2	0		18.3	11		
I. chrysochaetia†	Hallier f.	2	2	19.5	8.6	11		W. Trop. Africa to South Sudan and Angola
I. cicatricosa†	Baker	3	2	242.2	1.9	36		Ethiopia to Kenya
I. clausa	Rudolph ex Ledeb.	1	0		19	8		
I. clavata	(G.Don) Ooststr. ex J.F.Macbr.	5	0		14	148		
I. coccinea	L.	2	0		45.8	12	Contradictory	
I. coptica	(L.) Roth ex Roem. & Schult.	6	0		-9.1	8	Devoid	
I. cordatotriloba	Dennst.	4	0		29.9	13.8	Contradictory	
I. coscinosperma	Hochst. ex Choisy	2	0		8.6	7	Devoid	
I. costata	F.Muell. ex Benth.	2	0		-15.1	114	Positive	
I. costellata	Torr.	6	0		27.2	5.5		
I. crassipes	Hook.	1	0		-8.8	5		
I. crepidiformis	Hallier f.	1	0		-4.9	18		
I. cristulata	Hallier f.	3	0		33	11		
I. decasperma	Hallier f.	1	0		24	14		
I. diamantinensis	J.M.Black ex Eardley in J.M.Black	4	0		-23.8	100	Positive	
I. dichroa	Hochst. ex Choisy	6	0		-1.6	10.5	Devoid	
I. digitata	L.	3	0		7.5	26		
I. dubia	Roem. & Schult.	3	0		-6	11		

I. dumetorum	(Kunth) Willd.	4	0		3.7	24	Positive	
I. durangensis	House	1	0		24	9		
I. echinocalyx	Meisn.	1	0		-18.1	204		
I. eggersiana	Peter	1	0		17.7	14		
I. eriocarpa	R.Br.	5	0		-3.5	5	Devoid	
I. ficifolia	Lindl.	2	0		-11.4	10		
I. fimbriosepala†	Choisy	2	2	102.9	-28.1	39		WC. Trop. Africa, W. Indian Ocean, SE. China, New Guinea to Pacific, S. Mexico, S. Trop. America
I. fulvicaulis	(Hochst. ex Choisy) Boiss. ex Hallier f.	3	0		-11.5	16.7		
I. gracilis	R.Br.	2	2	131.6	-19.8	20		N. & NE. Australia
I. graminea†	R.Br.	2	1	1.2	-14	31	Devoid	C. Malesia to N. Australia
I. grandifolia	(Dammer) O'Donell	1	0		-25.6	17		
I. haenkeana	Choisy	1	0		-17.8	8		
I. hederacea	Jacq.	5	0		36	33	Contradictory	
I. hederifolia	L.	5	0		0.4	10		
I. heptaphylla	Sweet	4	0		-0.5	17.3	Contradictory	
I. heterodoxa	Standl. & Steyerm.	2	0		20.5	3		
I. heterotricha	Standl. & Steyerm.	3	0		11.3	10		
I. hieronymi	(Kuntze) O'Donell	1	0		-31.1	33		
I. hildebrandtii	Vatke	3	3	1501	1	105	Positive	Ethiopia to Rwanda and Tanzania
I. hochstetteri	House	3	0		-13.6	27	Devoid	
I. holubii	Baker	1	0		-24.1	58		
I. imperati	(Vahl) Griseb.	9	0		15.7	70	Positive	
I. incarnata†	(Vahl) Choisy	1	1	22.9	-12	20		Curaçao to S. Trop. America
I. indica	(Burm.) Merr.	6	0		16.8	23.17	Devoid	

I. indivisa†	(Vell.) Hallier f.	2	1	45.8	-14.4	7		Bolivia to Brazil and NE. Argentina
I. intrapilosa	Rose	2	0		20.5	79		
I. involucrata	P.Beauv.	2	0		5.9	50	Devoid	
I. jalapa	(L.) Pursh	2	0		14.8	32		
I. keraudreniae	Deroin	1	0		-20	19		
I. killipiana†	O'Donell	1	1	778	8.6	11		Colombia, French Guiana
I. kituiensis†	Vatke	3	3	1196.7	-0.3	101		Ethiopia to S. Trop. Africa
I. kotschyana	Hochst. ex Choisy	4	0		13.4	4		
I. lacunosa	L.	1	0		30	19	Contradictory	
I. lapathifolia	Hallier f.	4	0		-8	7		
I. lapidosa	Vatke	1	0		1	123		
I. leptophylla	Torr.	24	24	27.4	40.6	79	Positive	W. & WC. U.S.A.
I. × *leucantha*	Jacq.	1	0		23.4	6		
I. leucanthemum	(Klotzsch) Hallier f.	1	0		-13.5	11		
I. leucotricha†	Donn.Sm.	1	1	31	10.3	23		SE. Mexico to C. America
I. lindenii†	M.Martens & Galeotti	2	1	87.1	11.7	28		Mexico to Venezuela and W. Bolivia, Jamaica
I. lindheimeri	A.Gray	3	0		30.6	40	Devoid	
I. linosepala	Hallier f.	3	0		-8.7	5.7		
I. lonchophylla	J.M.Black	6	0		-23.7	18		
I. longifolia	Benth.	2	0		24.8	118		
I. longituba	Hallier f.	1	0		-23.4	28		
I. lutea	Hemsl.	1	0		17.4	11		
I. luteoviridis	Ekman & Leonard	1	0		19.9	6		
I. malvaeoides	Meisn.	2	0		-25.2	30		
I. marmorata	Britten & Rendle	1	0		8.6	213		
I. maurandioides†	Meisn.	4	2	321.4	-14.6	15.25		Bolivia to Brazil and NE. Argentina

I. mauritiana†	Jacq.	6	1	7.2	3.4	19	Devoid	Trop. America, Africa
I. meyeri	(Spreng.) G.Don	3	0		11.7	5	Devoid	
I. minutiflora	(M.Martens & Galeotti) House	4	0		15.3	2	Positive	
I. mombassana	Vatke	2	0		-6.7	7		
I. muelleri	Benth.	15	15	97.1	-19.7	49	Positive	Australia
I. muricata	(L.) Jacq.	7	0		26.9	149.4	Contradictory	
I. murucoides	Roem. & Schult.	7	0		4.9	154.6	Devoid	
I. neei	(Spreng.) O'Donell	3	0		16	12		
I. nil	(L.) Roth	7	0		17.7	26.6	Contradictory	
I. obscura	(L.) Ker Gawl.	5	0		-7.9	19	Devoid	
I. ochracea	(Lindl.) Sweet	6	0		5.5	22.5		
I. oenotherae	(Vatke) Hallier f.	1	0		0.1	6		
I. opulifolia	Rusby	1	0		-17.6	56		
I. orizabensis	(G.Pelletan) Ledeb. ex Steud.	1	0			56	Positive	
I. paludosa	O'Donell	1	0			10		
I. pandurata	(L.) G.Mey.	5	0		35.5	25		
I. papilio	Hallier f.	3	0		-18	9		
I. parasitica	(Kunth) G.Don	12	7	919.1	15.2	43	Positive	Mexico to Brazil
I. passifloroides	House	1	0		19.3	9		
I. pauciflora	M.Martens & Galeotti	5	0		16.7	74		
I. pedicellaris	Benth.	5	0		24.4	92	Positive	
I. pes-caprae	(L.) R.Br.	101	94	10.9	17.9	110	Positive	Coasts of Trop. & Subtrop.
I. pes-tigridis	L.	4	0		14.6	28		
I. peteri	(Kuntze) Staples & Govaerts	2	0		16.9	7		
I. philomega	(Vell.) House	5	1	136.3	12.3	14	Positive	S. Mexico to Trop. America

I. pileata†	Roxb.	6	1	11.9	2.8	12		Trop. & Subtrop. Old World
I. pinifolia	Meisn.	1	0		-15.8	80		
I. platensis	Ker Gawl.	1	0		-29.2	5		
I. plummerae	A.Gray	1	0		-16.5	17		
I. polpha	R.W.Johnson	1	0		-17.1	99		
I. polymorpha	Roem. & Schult.	9	0		-8.4	5.7		
I. populina	House	2	0		13.2	65		
I. porphyrea†	J.R.I.Wood & Scotland	1	1	43.5	-22.2	83		Madagascar
I. praecana	House	4	0		13.6	58		
I. praematura	Eckenw.	1	0			10		
I. prismatosyphon†	Welw.	2	1	1.7	-3.1	71		Trop. Africa
I. pubescens	Lam.	2	0		26.2	47		
I. purpurea	(L.) Roth	5	0		11.4	27	Contradictory	
I. quamoclit	L.	8	0		14.4	11	Contradictory	
I. racemigera	F.Muell. & Tate	3	0		-23.3	32		
I. racemosa†	Poir.	2	2	1068.4	20.6	72		Cuba to Hispaniola
I. ramosissima	(Poir.) Choisy	5	0		5.6	10	Devoid	
I. recta	De Wild.	2	0		-13.6	5		
I. regnellii	Meisn.	1	0		7.9	31	Devoid	
I. repanda	Jacq.	1	0		16.2	8		
I. rubens	Choisy	6	0		9.1	23.8	Devoid	
I. rubriflora	O'Donell	1	0		-24.2	9		
I. sagittata	Poir.	4	0		29.5	51		
I. sagittifolia	Burm.f.	6	0		-0.95	11.8	Devoid	
I. saintronanensis	R.W.Johnson	1	0			156		
I. santillanii	O'Donell	1	0		13.8	182		
I. saopaulista	O'Donell	2	0		-11.3	4		
I. schomburgkii	Choisy	2	0		8.9	18		

I. sepacuitensis	Donn.Sm.	1	0		17.2	178		
I. sericosepala†	J.R.I.Wood & Scotland	3	3	54.9	-10.1	44.3		Peru to Brazil
I. setifera	Poir.	5	4	67.8	8.5	31	Positive	S. Mexico to Trop. America
I. setosa	Ker Gawl.	4	0		13.8	79	Devoid	
I. shirambensis	Baker	4	0		-12.8	19	Devoid	
I. shupangensis	Baker	1	0		-8.3	35		
I. simonsiana	Rendle	2	0		-15.2	8		
I. spathulata†	Hallier f.	2	1	67.2	5.2	39		Ethiopia to Uganda
I. splendor-sylvae	House	4	0		12.0	7.5		
I. squamisepala	O'Donell	1	0		25.2	8		
I. squamosa	Choisy	4	0		13.7	24		
I. stans†	Cav.	2	2	23.7	18.9	47		Mexico
I. steerei	(Standl.) L.O.Williams	2	0		19.2	11		
I. stenobasis†	Brenan	2	2	8	7.7	36		W. Trop. Africa to Uganda
I. stenosiphon	Hallier f.	4	0		-11.0	127.5		
I. suaveolens	(M.Martens & Galeotti) Hemsl.	2	0		15.3	2		
I. subrevoluta	Choisy	1	0		-14.8	71		
I. sulphurea	(La Llave) G.Don	1	0			9		
I. syringifolia†	Meisn.	2	2	142.5	-25.9	15		Brazil to NE. Argentina
I. tenuipes	Verdc.	2	0		-15.5	18		
I. tenuirostris	Choisy	4	0		2.4	8		
I. ternata	Jacq.	1	0		18.1	12		
I. ternifolia	Cav.	2	0		18.8	6.5	Devoid	
I. tiliacea	(Willd.) Choisy	1	0		11.1	6		
I. tricolor	Cav.	2	2	164.6	9.7	28	Positive	Mexico
I. trifida	(Kunth) G.Don	3	0		13.4	4		

I. triloba	L.	7	0		13.3	13	Devoid	
I. tuboides	O.Deg. & Ooststr.	1	0			105		
I. urbaniana†	(Dammer) Hallier f.	5	4	2858.4	-4.3	31		EC. & E. Trop. Africa
I. verbascoidea	Choisy	6	0		-19	56	Devoid	
I. villifera	House	1	0		15.3	41		
I. violacea	L.	5	0		-4.2	172	Devoid	
I. welwitschii	Vatke ex Hallier f.	1	0		-13.5	15		
I. wightii	(Wall.) Choisy	4	0		-7.1	11		
I. wolcottiana	Rose	2	0		16.5	35		
J. paniculata	(Burm.f.) Hallier f.	2	0		-20.2	16		
M. hirta	(L.) Merr.	1	0		23.2	36	Devoid	
P. shirensis†	(Oliv.) Lejoly & Lisowski	3	1	55.9	-15.3	10		S. DR Congo to E. South Africa
S. beraviensis	(Vatke) Hallier f.	2	2	1133.3	-7.8	38	Positive	Trop. Africa to Botswana, Madagascar
S. macalusoi†	(Mattei) Verdc.	1	1	1601.4	18	209		Somalia
S. mojangensis	(Vatke) D.F.Austin & Eich	1	0		-18.6	7		
S. tiliifolia	(Desr.) Hallier f.	2	2	1213.9	11	233	Positive	Trop. & Subtrop. Asia to Pacific

† New species identified with ergot alkaloids

Table S2. Species in Eich (2008) absent from our sampling but are included in the ITS phylogeny.

Species	Authority	Previous Designation (Eich 2008)	Geographical Distribution
A. cuneata	(Willd.) Ker Gawl.	Positive	India
A. hookeri	C.B.Clarke	Positive	Nepal to Thailand, Andaman Is.
A. mollis	(Burm f.) Choisy	Positive	Bangladesh to Hainan and Lesser Sunda Is.
A. ridleyi	(Prain) Ooststr.	Positive	Pen. Malaysia to Sumatera
A. wallichii	Choisy	Positive	Sikkim to SC. China and N. Indo-China
I. asarifolia	(Desr.) Roem. & Schult.	Positive	Tropics
I. batatas	(L.) Lam.	Devoid	
I. bracteata	Cav.	Devoid	
I. cardiophylla	A.Gray	Positive	Arizona to Texas and Mexico
I. chloroneura	Hallier f.	Devoid	
I. corymbosa	(L.) Roth	Positive	Mexico to Trop. America
I. cynanchifolia	Meisn.	Devoid	
I. jujuyensis	O'Donell	Positive	Ecuador to NW. Argentina
I. lobata	(Cerv.) Thell.	Contradictory	
I. marginisepala	O'Donell	Positive	S. Bolivia to NW. Argentina
I. microsepala	Benth.	Devoid	
I. mirandina	(Pittier) O'Donell	Devoid	
I. reticulata	O'Donell	Devoid	
S. laxiflora	(Baker) Hallier f.	Positive	Tanzania to E. South Africa, Madagascar

Table S3. Accession information of all sequences included in the ITS phylogeny.

Accession	Species	Accession	Species
AF110918.1	Ipomoea diamantinensis	MN825395.1	Ipomoea lacunosa
AF110926.1	Ipomoea saintronanensis	MN825400.1	Ipomoea lapathifolia
AF110938.1	Ipomoea batatas	MN825401.1	Ipomoea lapidosa
AF309151.1	Argyreia splendens	MN825406.1	Ipomoea leptophylla
AF309152.1	Argyreia capitiformis	MN825410.1	Ipomoea x leucantha
AF309153.1	Argyreia nervosa	MN825416.1	Ipomoea leucanthemum
AF309154.1	Ipomoea eriocarpa	MN825418.1	Ipomoea leucotricha
AF309155.1	Stictocardia tiliifolia	MN825423.1	Ipomoea lindenii
AF309156.1	Stictocardia beraviensis	MN825428.1	Ipomoea lindheimeri
AF309160.1	Ipomoea holubii	MN825433.1	Ipomoea linosepala
AY538299.1+MN825462.1	Ipomoea lutea	MN825440.1	Ipomoea lobata
AY538328.1+MG910327.1	Ipomoea ternifolia	MN825451.1	Ipomoea longifolia
DQ355317.1	Ipomoea sepacuitensis	MN825455.1	Ipomoea longituba
JX974573.1	Argyreia cuneata	MN825486.1	Ipomoea malvaeoides
KP261910.1	Argyreia henryi	MN825496.1	Ipomoea marginisepala
KP261991.1	Merremia verruculosa	MN825497.1	Ipomoea marmorata
KP261994.1	Merremia gemella	MN825505.1	Ipomoea maurandioides
KP261997.1	Merremia incisa	MN825509.1	Ipomoea mauritiana
KU201949.1	Stictocardia macalusoi	MN825523.1	Ipomoea meyeri
MH189757.1	Ipomoea hederacea	MN825528.1	Ipomoea microsepala
MH768129.1	Ipomoea violacea	MN825531.1	Ipomoea minutiflora
MH825855.1	Merremia hederacea	MN825535.1	Ipomoea mirandina
MN824770.1	Ipomoea abrupta	MN825537.1	Stictocardia mojangensis
MN824775.1	Ipomoea abutiloides	MN825549.1	Ipomoea muelleri
MN824781.1	Ipomoea acanthocarpa	MN825552.1	Ipomoea muricata
MN824786.1	Ipomoea aculeata	MN825561.1	Ipomoea murucoides
MN824789.1	Ipomoea adenioides	MN825563.1	Ipomoea neei
MN824790.1	Ipomoea alba	MN825574.1	Ipomoea nil
MN824793.1	Ipomoea albivenia	MN825589.1	Ipomoea obscura
MN824804.1	Ipomoea amnicola	MN825591.1	Argyreia obtusifolia
MN824815.1	Ipomoea aquatica	MN825593.1	Ipomoea ochracea
MN824818.1	Ipomoea arborescens	MN825599.1	Ipomoea oenotherae
MN824825.1	Ipomoea argentaurata	MN825608.1	Ipomoea opulifolia
MN824828.1	Ipomoea argentea	MN825618.1	Ipomoea orizabensis
MN824840.1+MN824841.1	Ipomoea argillicola	MN825628.1	Argyreia osyrensis

MN824843.1	Ipomoea aristolochiifolia	MN825640.1	Ipomoea paludosa
MN824852.1	Ipomoea asarifolia	MN825641.1	Ipomoea pandurata
MN824861.1	Ipomoea aurantiaca	MN825647.1	Ipomoea papilio
MN824874.1	Ipomoea barbatisepala	MN825650.1	Ipomoea parasitica
MN824875.1	Ipomoea barteri	MN825656.1+MN825655.1	Ipomoea pauciflora
MN824950.1	Ipomoea batatoides	MN825660.1	Ipomoea pedicellaris
MN824966.1	Ipomoea biflora	MN825668.1	Ipomoea pes-caprae
MN824972.1	Ipomoea blepharophylla	MN825672.1	Ipomoea pes-tigridis
MN824974.1	Ipomoea bolusiana	MN825674.1	Ipomoea peteri
MN824976.1+MN824977.1	Ipomoea bombycina	MN825681.1	Ipomoea philomega
MN824979.1	Ipomoea bonariensis	MN825688.1	Ipomoea pileata
MN824986.1	Ipomoea bracteata	MN825693.1	Ipomoea pinifolia
MN824998.1	Ipomoea brassii	MN825698.1	Ipomoea platensis
MN825002.1	Stictocardia laxiflora	MN825704.1	Ipomoea plummerae
MN825010.1	Ipomoea cairica	MN825710.1	Ipomoea polpha
MN825012.1	Ipomoea calobra	MN825715.1	Ipomoea polymorpha
MN825019.1	Ipomoea campanulata	MN825716.1	Ipomoea populina
MN825020.1	Ipomoea capillacea	MN825717.1	Ipomoea porphyrea
MN825024.1	Ipomoea cardiophylla	MN825718.1	Ipomoea praecana
MN825025.1	Ipomoea carnea	MN825722.1	Ipomoea prismatosyphon
MN825046.1	Ipomoea chiriquensis	MN825742.1	Ipomoea pubescens
MN825047.1	Ipomoea chloroneura	MN825753.1	Ipomoea purpurea
MN825050.1	Ipomoea cholulensis	MN825758.1	Ipomoea quamoclit
MN825053.1	Ipomoea cicatricosa	MN825776.1	Ipomoea ramosissima
MN825059.1	Ipomoea clausa	MN825783.1	Ipomoea regnellii
MN825063.1	Ipomoea clavata	MN825786.1	Ipomoea repanda
MN825067.1	Ipomoea coccinea	MN825789.1	Ipomoea reticulata
MN825074.1	Ipomoea coptica	MN825792.1	Argyreia ridleyi
MN825100.1	Ipomoea cordatotriloba	MN825799.1	Argyreia roseopurpurea
MN825107.1	Ipomoea corymbosa	MN825801.1	Ipomoea rubens
MN825112.1	Ipomoea coscinosperma	MN825811.1	Ipomoea rubriflora
MN825113.1	Ipomoea costata	MN825819.1	Ipomoea sagittata
MN825119.1	Ipomoea costellata	MN825821.1	Ipomoea sagittifolia
MN825122.1	Ipomoea crassipes	MN825825.1	Ipomoea santillanii
MN825127.1	Ipomoea crepidiformis	MN825826.1	Ipomoea saopaulista
MN825132.1	Ipomoea cristulata	MN825827.1+MN825828.1	Ipomoea schomburgkii
MN825157.1	Ipomoea cynanchifolia	MN825849.1	Argyreia mollis

MN825164.1+MN825168.1	Ipomoea decasperma	MN825853.1	Ipomoea sericosepala vo
MN825187.1	Ipomoea dichroa	MN825861.1+MF171727.1	Ipomoea setifera
MN825191.1	Ipomoea dubia	MN825866.1	Ipomoea setosa
MN825195.1	Ipomoea dumetorum	MN825870.1	Ipomoea shirambensis
MN825205.1	Ipomoea echinocalyx	MN825877.1	Ipomoea shupangensis
MN825207.1	Ipomoea eggersiana	MN825884.1	Ipomoea simonsiana
MN825223.1	Ipomoea ficifolia	MN825892.1	Ipomoea spathulata
MN825224.1	Ipomoea fimbriosepala	MN825894.1	Ipomoea splendor-sylvae
MN825227.1	Ipomoea fulvicaulis	MN825897.1	Ipomoea squamisepala
MN825242.1	Ipomoea gracilis	MN825903.1	Ipomoea squamosa
MN825244.1	Ipomoea graminea	MN825905.1	Ipomoea stans
MN825246.1+MN825247.1	Ipomoea grandifolia	MN825907.1	Argyreia wallichii
MN825273.1	Ipomoea haenkeana	MN825911.1	Ipomoea stenobasis
MN825290.1	Ipomoea hederifolia	MN825914.1	Ipomoea stenosiphon
MN825300.1	Ipomoea heptaphylla	MN825927.1	Ipomoea subrevoluta
MN825303.1	Ipomoea heterodoxa	MN825939.1	Ipomoea syringifolia
MN825306.1	Ipomoea heterotricha	MN825952.1+MN825953.1	Ipomoea tenuipes
MN825308.1	Ipomoea hieronymi	MN825955.1	Ipomoea tenuirostris
MN825311.1	Argyreia hookeri	MN825961.1	Ipomoea ternata
MN825315.1	Ipomoea hochstetteri	MN825967.1	Ipomoea tiliacea
MN825327.1	Ipomoea imperati	MN825985.1	Ipomoea tricolor
MN825334.1	Ipomoea incarnata	MN825986.1	Ipomoea trifida
MN825347.1	Ipomoea indica	MN825999.1	Ipomoea triloba
MN825355.1	Ipomoea intrapilosa	MN826015.1	Ipomoea tuboides
MN825357.1	Ipomoea involucrata	MN826024.1	Ipomoea urbaniana
MN825368.1	Ipomoea jalapa	MN826033.1	Ipomoea verbascoidea
MN825372.1	Ipomoea jujuyensis	MN826037.1	Ipomoea villifera
MN825376.1	Ipomoea keraudreniae	MN826048.1	Ipomoea welwitschii
MN825378.1	Ipomoea kituiensis	MN826050.1	Ipomoea wightii
MN825379.1	Argyreia kleiniana	MN826051.1	Ipomoea wolcottiana
MN825380.1	Ipomoea kotschyana		

Supplementary Dataset 1. All herbarium specimens used in the study. Available at https://doi.org/10.6084/m9.figshare.14749512.