

Regional workshop to assess the extinction risk of Mesoamerican crop wild relatives
February 13th – 17th, 2017, Cuernavaca, Morelos, Mexico

Summary and Results

The regional workshop to assess the extinction risk of Mesoamerican crop wild relatives was organized by Mexico's National Commission for the Knowledge and Use of Biodiversity (CONABIO) and the International Union for Conservation of Nature (IUCN).

The workshop objectives were:

1. Revise spatial data and published information collated by the organizers (Output 2, Activity 2.3 and 2.4)
2. Update the information as needed
3. Complete global extinction risk assessments for each of the taxa following the IUCN Red List Categories and Criteria of the (Output 2, Activity 2.5)
4. Complete climate change vulnerability assessments for the selected taxa (Output 2, Activity 2.5)

In preparation for the workshop, the organizers collated published information and spatial data to generate draft reports and distribution maps for 269 taxa before the workshop (Annex 4 SM2). Also, the organizers sent a list of the species to evaluate to experts for their input and to ask for any information that they could provide to prepare the draft reports before the workshop. A total of 45,987 occurrence points were collated from different sources and with data sent by experts, and were used to create distribution maps of each taxa. During the workshop, the organizers led the agenda and facilitated risk evaluations consulting with the experts. The resulting technical datasheets are considered peer-review publications authored by the participating experts.

A total of 22 experts representatives of universities, agronomy centers, museums and the government from El Salvador, Guatemala and Mexico participated (Table 1). The workshop was aided by 4 facilitators, 4 trainee facilitators (2 of them from the SCC Chairs Office), and the Red List Authority Coordinator for the IUCN SSC CWRSG, who helped reviewing the assessments on the spot. Two representatives of implementing partner University of Birmingham (UoB) attended the workshop: Shelagh Kell who is also the Red List Authority Coordinator of the IUCN Species Survival Commission, Crop Wild Relative Specialist Group, and Aremi Contreras, Mexican PhD student at UoB.

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The first day of the workshop was dedicated to training the participants on the use of the IUCN Red List Categories and Criteria and on the methodology to identify traits that make plant species vulnerable to climate change (Output 1, Activity 1.2). The day started with a presentation by Bárbara Goettsch (IUCN) about the Darwin Initiative and the project: “Safeguarding Mesoamerican crop wild relatives”. Next, Marcelo Tognelli (IUCN) presented and explained in detail the methodology for selecting criteria and assigning categories according with the IUCN Red List guidelines, booklets were distributed to the participants for future reference. Next, Jamie Carr (IUCN) presented the methodology to assess climate change vulnerability and distributed to each participant a copy the questionnaire that is used for identifying traits that make a plant taxa vulnerable to climate change. Finally, during the first day key vegetation classes for taxa to evaluate following IUCN habitat classification scheme were agreed with the experts input (<http://www.iucnredlist.org/technical-documents/classification-schemes/habitats-classification-scheme-ver3>). In addition to the 22 experts that were trained, 17 participants from different institutions were trained as well by 4 IUCN experienced facilitators (Table 1).

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Table 1. List of attendees of the regional workshop to assess the extinction risk of Mesoamerican crop wild relatives

	Name	Institution	Country
Experts			
1	Flavio Aragón Cuevas	INIFAP Valles Centrales de Oaxaca	Mexico
2	César Azurdía	Dirección de Valoración y Conservación de la diversidad Biológica (CONAP)	Guatemala
3	Gabriela Castellanos	UNAM	Mexico
4	José Gabriel Cerén López	Museo de Historia Natural de El Salvador	El Salvador
5	Aremi Contreras	School of Biosciences, University of Birmingham	United Kingdom
6	Lino de la Cruz Larios	Centro Universitario de Ciencias Biológicas y Agropecuarias, Universidad de Guadalajara	Mexico
7	Alfonso Delgado	Instituto de Biología, UNAM	Mexico
8	Manuel González Ledesma	Universidad Autónoma del Estado de Hidalgo	Mexico
9	Enrique González Pérez	INIFAP, Celaya, Guanajuato	Mexico
10	Mariana Hernández	Facultad de Ciencias, UNAM	Mexico
11	Edgar Herrera	Colegio de Postgraduados, Campus Puebla	Mexico
12	Shelagh Kell	School of Biosciences, University of Birmingham	United Kingdom
13	Francisco Lorea Hernández	Instituto de Ecología, (INECOL), Xalapa, Veracruz	Mexico
14	Mahinda Martínez	Universidad Autónoma de Querétaro	Mexico
15	Jenny Elizabeth Menjivar	Museo de Historia Natural de El Salvador	El Salvador
16	Aarón Rodríguez Contreras	Centro Universitario de Ciencias Biológicas y Agropecuarias (CUCBA), Universidad de Guadalajara	Mexico
17	José Ariel Ruiz Corral	INIFAP, Guadalajara	Mexico
18	Abigail Sanchez Cuevas	INIFAP Valles Centrales de Oaxaca	Mexico
19	Guillermo Santos de la Vega	UNAM	Mexico
20	Ofelia Vargas Ponce	Centro Universitario de Ciencias Biológicas y Agropecuarias (CUCBA), Universidad de Guadalajara	Mexico
21	Melania Vega	Instituto de Biología, UNAM	Mexico
22	Ana Wegier	Instituto de Biología, UNAM	Mexico

Regional workshop to assess the extinction risk of Mesoamerican crop wild relativesFebruary 13th – 17th, 2017, Cuernavaca, Morelos, Mexico**Table 1 (cont.). List of attendees of the regional workshop to assess the extinction risk of Mesoamerican crop wild relatives**

Facilitators			
23	Ligia Boueres	IUCN	U.S.A.
24	Jamie Carr	IUCN	United Kingdom
25	Ariany García	Provita	Venezuela
26	Bárbara Goettsch	IUCN	United Kingdom
27	Jesús Morales	Provita	Venezuela
28	Mariella Superina	IUCN	Argentina
29	Marcello Tognelli	IUCN	U.S.A.
Logistics and data management support			
30	Jesús Alarcón	CONABIO	Mexico
31	Emma Gómez	CONABIO	Mexico
32	Alicia Mastretta	CONABIO	Mexico
33	Oswaldo Oliveros	CONABIO	Mexico
34	María Andrea Orjuela	CONABIO	Mexico
35	Diana Ramírez	CONABIO	Mexico
36	Sylvia Ruiz	CONABIO	Mexico
37	Wolke Tobón	CONABIO	Mexico
Other participants (only during the first day of training)			
38	Angela Cuervo-Robayo	CONABIO	Mexico
39	Patricia Koleff	CONABIO	Mexico
40	Edgar Saavedra	CONABIO	Mexico
41	Tania Urquiza	CONABIO	Mexico
42	Adriana Valera	CONABIO	Mexico
43	Alejandra Barrios	SEMARNAT (Nagoya focal point for Mexico)	Mexico

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In order to monitor gender equity and age distribution the organizers asked participants to complete an anonymous survey, 41 out of 43 participants completed it. The results are summarized on Table 2.

Table 2. Gender and age survey

Age	Female	Male	Total
25-30	3	1	4
31-35	5	2	7
36-40	6	2	8
41-45	3	2	5
46-50		2	2
51-55	4	4	8
56-60	1	3	4
61-65		2	2
66-70		1	1
TOTAL	22	19	41

During day 2-5 of the workshop, participants worked in groups organized by plant genus (Table 3) and assessed the extinction risk and climate change vulnerability of 251 crop wild relative taxa native to Mesoamerica, including some of the most widely used crops in the world, such as maize, squashes, beans, avocados, cotton and vanilla, among others (Output 2, Activity 2.5, Table 4).

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Table 3. Taxa evaluated during the Red List workshop					
	Order	Family	Taxa	Criteria	Category
1	ARECALES	PALMAE	<i>Acrocomia aculeata</i>	N/A	LC
2	SOLANALES	SOLANACEAE	<i>Capsicum annuum</i> var. <i>glabriusculum</i>	B2b(iii)c(iv)	NT
3	SOLANALES	SOLANACEAE	<i>Capsicum frutescens</i>	B2a(ii)b(iii)	NT
4	SOLANALES	SOLANACEAE	<i>Capsicum lanceolatum</i>	B2b(iii)	VU
5	SOLANALES	SOLANACEAE	<i>Capsicum rhomboideum</i>	B2b(iii)	NT
6	ARECALES	PALMAE	<i>Chamaedorea costaricana</i>	N/A	LC
7	ARECALES	PALMAE	<i>Chamaedorea tepejilote</i>	N/A	LC
8	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita argyrosperma</i>	N/A	LC
9	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita cordata</i>	N/A	DD
10	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita digitata</i>	N/A	LC
11	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita foetidissima</i>	N/A	LC
12	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita lundelliana</i>	N/A	LC
13	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita okechobeensis</i> subsp. <i>martinezii</i>	B2ab(iii)	EN
14	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita palmata</i>	N/A	DD
15	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita pedatifolia</i>	N/A	DD
16	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita pepo</i>	N/A	LC
17	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita pepo</i> subsp. <i>fraterna</i>	B2a	NT
18	CUCURBITALES	CUCURBITACEAE	<i>Cucurbita radicans</i>	B2ab(iii)	EN
19	CUCURBITALES	CUCURBITACEAE	<i>Cyclanthera carthagenensis</i>	N/A	LC
20	GENTIANALES	APOCYNACEAE	<i>Fernaldia pandurata</i>	B2ab(v)c(iv)	EN
21	MALVALES	MALVACEAE	<i>Gossypium aridum</i>	B2ab(i,ii,iii,iv,v)	VU
22	MALVALES	MALVACEAE	<i>Gossypium armourianum</i>	C2a(i)	CR
23	MALVALES	MALVACEAE	<i>Gossypium barbadense</i>	N/A	LC

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24	MALVALES	MALVACEAE	<i>Gossypium davidsonii</i>	B2ab(i,ii)	VU
25	MALVALES	MALVACEAE	<i>Gossypium gossypoides</i>	B2ab(iii,v)	VU
26	MALVALES	MALVACEAE	<i>Gossypium harknessii</i>	B2ab(i,ii,iii,iv,v)	EN
27	MALVALES	MALVACEAE	<i>Gossypium hirsutum</i>	B2ab(i,iii,v); C1+2a(i)	VU
28	MALVALES	MALVACEAE	<i>Gossypium laxum</i>	B1ab(iii,v)+2ab(iii,v); C2a(i); D	EN
29	MALVALES	MALVACEAE	<i>Gossypium lobatum</i>	A4ac; B1ab(i,ii,iii,v)+2ab(i,ii,i ii,v); C2a(i)	EN
30	MALVALES	MALVACEAE	<i>Gossypium schwendimanii</i>	A4ac; B1ab(i,ii,iii,v)+2ab(i,ii,i ii,v); C2a(i)	EN
31	MALVALES	MALVACEAE	<i>Gossypium thurberi</i>	B2ab(i,ii,iii)	EN
32	MALVALES	MALVACEAE	<i>Gossypium trilobum</i>	B1ab(ii,iii,v)+2ab(ii,iii, v); D	EN
33	MALVALES	MALVACEAE	<i>Gossypium turneri</i>	B1ab(i,ii,iii,v); C2a(i)	CR
34	FABALES	LEGUMINOSAE	<i>Pachyrhizus erosus</i>	N/A	LC
35	VIOLALES	PASSIFLORACEAE	<i>Passiflora ligularis</i>	B2ab(iii)	EN
36	LAURALES	LAURACEAE	<i>Persea albida</i>	A2c	EN
37	LAURALES	LAURACEAE	<i>Persea americana</i>	N/A	LC
38	LAURALES	LAURACEAE	<i>Persea caerulea</i>	N/A	LC
39	LAURALES	LAURACEAE	<i>Persea chamissonis</i>	A2c	EN
40	LAURALES	LAURACEAE	<i>Persea cinerascens</i>	A2c; B2b(iii)	EN
41	LAURALES	LAURACEAE	<i>Persea donnell-smithii</i>	A2c	VU
42	LAURALES	LAURACEAE	<i>Persea hintonii</i>	A2c	VU
43	LAURALES	LAURACEAE	<i>Persea longipes</i>	A2c; B2ab(iii)	EN
44	LAURALES	LAURACEAE	<i>Persea pallescens</i>	A2c; B2ab(iii)	EN
45	LAURALES	LAURACEAE	<i>Persea podadenia</i>	A2c; B2	NT

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46	LAURALES	LAURACEAE	<i>Persea purpusii</i>	N/A	DD
47	LAURALES	LAURACEAE	<i>Persea rigens</i>	N/A	LC
48	LAURALES	LAURACEAE	<i>Persea rufescens</i>	A2c; B2ab(iii)	EN
49	LAURALES	LAURACEAE	<i>Persea schiedeana</i>	A2c	EN
50	LAURALES	LAURACEAE	<i>Persea sessilis</i>	N/A	DD
51	LAURALES	LAURACEAE	<i>Persea veraguasensis</i>	N/A	DD
52	LAURALES	LAURACEAE	<i>Persea vesticula</i>	N/A	LC
53	FABALES	LEGUMINOSAE	<i>Phaseolus acutifolius</i>	N/A	LC
54	FABALES	LEGUMINOSAE	<i>Phaseolus albescens</i>	B1ab(i,iii,v)	VU
55	FABALES	LEGUMINOSAE	<i>Phaseolus albiflorus</i>	B1ab(iii,v)	VU
56	FABALES	LEGUMINOSAE	<i>Phaseolus albinervus</i>	N/A	DD
57	FABALES	LEGUMINOSAE	<i>Phaseolus albiviolaecus</i>	N/A	DD
58	FABALES	LEGUMINOSAE	<i>Phaseolus altimontanus</i>	D1	VU
59	FABALES	LEGUMINOSAE	<i>Phaseolus amabilis</i>	N/A	DD
60	FABALES	LEGUMINOSAE	<i>Phaseolus amblyosepalus</i>	N/A	LC
61	FABALES	LEGUMINOSAE	<i>Phaseolus angustissimus</i>	N/A	LC
62	FABALES	LEGUMINOSAE	<i>Phaseolus anisophyllus</i>	N/A	DD
63	FABALES	LEGUMINOSAE	<i>Phaseolus campanulatus</i>	D	EN
64	FABALES	LEGUMINOSAE	<i>Phaseolus carteri</i>	B1ab(iii)	EN
65	FABALES	LEGUMINOSAE	<i>Phaseolus chiapasanus</i>	D	EN
66	FABALES	LEGUMINOSAE	<i>Phaseolus coccineus</i>	N/A	LC
67	FABALES	LEGUMINOSAE	<i>Phaseolus dasycarpus</i>	B1ab(iii,v)	EN
68	FABALES	LEGUMINOSAE	<i>Phaseolus dumosus</i>	B1ab(iii,v)	EN
69	FABALES	LEGUMINOSAE	<i>Phaseolus esperanzae</i>	D1	VU
70	FABALES	LEGUMINOSAE	<i>Phaseolus esquincensis</i>	N/A	DD
71	FABALES	LEGUMINOSAE	<i>Phaseolus filiformis</i>	N/A	LC
72	FABALES	LEGUMINOSAE	<i>Phaseolus glabellus</i>	N/A	LC

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73	FABALES	LEGUMINOSAE	<i>Phaseolus grayanus</i>	N/A	LC
74	FABALES	LEGUMINOSAE	<i>Phaseolus hintonii</i>	D	EN
75	FABALES	LEGUMINOSAE	<i>Phaseolus jaliscanus</i>	N/A	LC
76	FABALES	LEGUMINOSAE	<i>Phaseolus juquilensis</i>	N/A	LC
77	FABALES	LEGUMINOSAE	<i>Phaseolus laxiflorus</i>	N/A	LC
78	FABALES	LEGUMINOSAE	<i>Phaseolus leptophyllus</i>	N/A	DD
79	FABALES	LEGUMINOSAE	<i>Phaseolus leptostachyus</i>	N/A	LC
80	FABALES	LEGUMINOSAE	<i>Phaseolus longiplacentifer</i>	N/A	DD
81	FABALES	LEGUMINOSAE	<i>Phaseolus lunatus</i>	N/A	LC
82	FABALES	LEGUMINOSAE	<i>Phaseolus macrolepis</i>	B1ab(iii,v)	EN
83	FABALES	LEGUMINOSAE	<i>Phaseolus maculatifolius</i>	N/A	LC
84	FABALES	LEGUMINOSAE	<i>Phaseolus maculatus</i>	N/A	LC
85	FABALES	LEGUMINOSAE	<i>Phaseolus macvaughii</i>	N/A	LC
86	FABALES	LEGUMINOSAE	<i>Phaseolus marechalii</i>	N/A	LC
87	FABALES	LEGUMINOSAE	<i>Phaseolus micranthus</i>	N/A	LC
88	FABALES	LEGUMINOSAE	<i>Phaseolus microcarpus</i>	N/A	LC
89	FABALES	LEGUMINOSAE	<i>Phaseolus neglectus</i>	N/A	LC
90	FABALES	LEGUMINOSAE	<i>Phaseolus nelsonii</i>	D1	VU
91	FABALES	LEGUMINOSAE	<i>Phaseolus nodosus</i>	N/A	LC
92	FABALES	LEGUMINOSAE	<i>Phaseolus novoleonensis</i>	N/A	DD
93	FABALES	LEGUMINOSAE	<i>Phaseolus oaxacanus</i>	N/A	LC
94	FABALES	LEGUMINOSAE	<i>Phaseolus oligospermus</i>	D1	VU
95	FABALES	LEGUMINOSAE	<i>Phaseolus opacus</i>	N/A	DD
96	FABALES	LEGUMINOSAE	<i>Phaseolus parvifolius</i>	N/A	LC
97	FABALES	LEGUMINOSAE	<i>Phaseolus parvulus</i>	N/A	LC
98	FABALES	LEGUMINOSAE	<i>Phaseolus pauciflorus</i>	N/A	LC
99	FABALES	LEGUMINOSAE	<i>Phaseolus pedicellatus</i>	N/A	LC

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100	FABALES	LEGUMINOSAE	<i>Phaseolus perplexus</i>	N/A	LC
101	FABALES	LEGUMINOSAE	<i>Phaseolus plagiocylix</i>	B1ab(i,iii,v)	EN
102	FABALES	LEGUMINOSAE	<i>Phaseolus pluriflorus</i>	N/A	LC
103	FABALES	LEGUMINOSAE	<i>Phaseolus polymorphus</i>	N/A	LC
104	FABALES	LEGUMINOSAE	<i>Phaseolus purpusii</i>	N/A	DD
105	FABALES	LEGUMINOSAE	<i>Phaseolus pyramidalis</i>	N/A	DD
106	FABALES	LEGUMINOSAE	<i>Phaseolus reticulatus</i>	B2ab(iii)	EN
107	FABALES	LEGUMINOSAE	<i>Phaseolus ritensis</i>	N/A	LC
108	FABALES	LEGUMINOSAE	<i>Phaseolus rotundatus</i>	N/A	LC
109	FABALES	LEGUMINOSAE	<i>Phaseolus salicifolius</i>	N/A	LC
110	FABALES	LEGUMINOSAE	<i>Phaseolus sonorensis</i>	N/A	LC
111	FABALES	LEGUMINOSAE	<i>Phaseolus tenellus</i>	D	EN
112	FABALES	LEGUMINOSAE	<i>Phaseolus tuerckheimii</i>	N/A	LC
113	FABALES	LEGUMINOSAE	<i>Phaseolus venosus</i>	N/A	LC
114	FABALES	LEGUMINOSAE	<i>Phaseolus vulgaris</i>	N/A	LC
115	FABALES	LEGUMINOSAE	<i>Phaseolus xanthotrichus</i>	N/A	LC
116	FABALES	LEGUMINOSAE	<i>Phaseolus xolocotzii</i>	N/A	LC
117	FABALES	LEGUMINOSAE	<i>Phaseolus zimapanensis</i>	N/A	LC
118	SOLANALES	SOLANACEAE	<i>Physalis acutifolia</i>	N/A	LC
119	SOLANALES	SOLANACEAE	<i>Physalis aggregata</i>	B1ab(iii)	VU
120	SOLANALES	SOLANACEAE	<i>Physalis ampla</i>	N/A	LC
121	SOLANALES	SOLANACEAE	<i>Physalis angulata</i>	N/A	LC
122	SOLANALES	SOLANACEAE	<i>Physalis angustior</i>	N/A	DD
123	SOLANALES	SOLANACEAE	<i>Physalis angustiphysa</i>	N/A	LC
124	SOLANALES	SOLANACEAE	<i>Physalis campanula</i>	B1a(ii)b(iii)	NT
125	SOLANALES	SOLANACEAE	<i>Physalis campechiana</i>	N/A	LC
126	SOLANALES	SOLANACEAE	<i>Physalis caudella</i>	N/A	LC

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127	SOLANALES	SOLANACEAE	<i>Physalis chenopodiifolia</i>	N/A	LC
128	SOLANALES	SOLANACEAE	<i>Physalis cinerascens</i>	N/A	LC
129	SOLANALES	SOLANACEAE	<i>Physalis cinerascens var. cinerascens</i>	N/A	LC
130	SOLANALES	SOLANACEAE	<i>Physalis cinerascens var. spathulifolia</i>	N/A	LC
131	SOLANALES	SOLANACEAE	<i>Physalis cordata</i>	N/A	LC
132	SOLANALES	SOLANACEAE	<i>Physalis coztomatl</i>	N/A	LC
133	SOLANALES	SOLANACEAE	<i>Physalis crassifolia</i>	N/A	LC
134	SOLANALES	SOLANACEAE	<i>Physalis crassifolia var. infundibularis</i>	N/A	LC
135	SOLANALES	SOLANACEAE	<i>Physalis crassifolia var. versicolor</i>	N/A	LC
136	SOLANALES	SOLANACEAE	<i>Physalis glabra</i>	N/A	LC
137	SOLANALES	SOLANACEAE	<i>Physalis glutinosa</i>	N/A	LC
138	SOLANALES	SOLANACEAE	<i>Physalis gracilis</i>	N/A	LC
139	SOLANALES	SOLANACEAE	<i>Physalis greenmanii</i>	B1ab(iii)	EN
140	SOLANALES	SOLANACEAE	<i>Physalis hastatula</i>	B1ab(iii)	EN
141	SOLANALES	SOLANACEAE	<i>Physalis hederifolia</i>	N/A	LC
142	SOLANALES	SOLANACEAE	<i>Physalis hintonii</i>	N/A	LC
143	SOLANALES	SOLANACEAE	<i>Physalis hunzikeriana</i>	N/A	DD
144	SOLANALES	SOLANACEAE	<i>Physalis ignota</i>	N/A	LC
145	SOLANALES	SOLANACEAE	<i>Physalis lagascae</i>	N/A	LC
146	SOLANALES	SOLANACEAE	<i>Physalis lassa</i>	N/A	LC
147	SOLANALES	SOLANACEAE	<i>Physalis latiphysa</i>	N/A	LC
148	SOLANALES	SOLANACEAE	<i>Physalis leptophylla</i>	N/A	LC
149	SOLANALES	SOLANACEAE	<i>Physalis lignescens</i>	B1ab(iii)	EN
150	SOLANALES	SOLANACEAE	<i>Physalis lobata</i>	N/A	LC
151	SOLANALES	SOLANACEAE	<i>Physalis longiloba</i>	N/A	LC
152	SOLANALES	SOLANACEAE	<i>Physalis longipedicellata</i>	N/A	LC
153	SOLANALES	SOLANACEAE	<i>Physalis mcvaughii</i>	B1	NT

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154	SOLANALES	SOLANACEAE	<i>Physalis melanocystis</i>	N/A	LC
155	SOLANALES	SOLANACEAE	<i>Physalis microcarpa</i>	N/A	LC
156	SOLANALES	SOLANACEAE	<i>Physalis microphysa</i>	N/A	LC
157	SOLANALES	SOLANACEAE	<i>Physalis minimaculata</i>	B1ab(iii)	VU
158	SOLANALES	SOLANACEAE	<i>Physalis minuta</i>	N/A	LC
159	SOLANALES	SOLANACEAE	<i>Physalis muelleri</i>	B2ab(iii)	CR
160	SOLANALES	SOLANACEAE	<i>Physalis nicandroides</i>	N/A	LC
161	SOLANALES	SOLANACEAE	<i>Physalis orizabae</i>	N/A	LC
162	SOLANALES	SOLANACEAE	<i>Physalis parvianthera</i>	N/A	DD
163	SOLANALES	SOLANACEAE	<i>Physalis patula</i>	N/A	LC
164	SOLANALES	SOLANACEAE	<i>Physalis pennellii</i>	B1a(i)	NT
165	SOLANALES	SOLANACEAE	<i>Physalis philadelphica</i>	N/A	LC
166	SOLANALES	SOLANACEAE	<i>Physalis philippensis</i>	N/A	DD
167	SOLANALES	SOLANACEAE	<i>Physalis porrecta</i>	N/A	DD
168	SOLANALES	SOLANACEAE	<i>Physalis pringlei</i>	N/A	LC
169	SOLANALES	SOLANACEAE	<i>Physalis pruinosa</i>	N/A	LC
170	SOLANALES	SOLANACEAE	<i>Physalis pubescens</i>	N/A	LC
171	SOLANALES	SOLANACEAE	<i>Physalis queretaroensis</i>	N/A	LC
172	SOLANALES	SOLANACEAE	<i>Physalis sancti-josephi</i>	N/A	DD
173	SOLANALES	SOLANACEAE	<i>Physalis solanacea</i>	N/A	LC
174	SOLANALES	SOLANACEAE	<i>Physalis sordida</i>	N/A	LC
175	SOLANALES	SOLANACEAE	<i>Physalis subrepens</i>	N/A	LC
176	SOLANALES	SOLANACEAE	<i>Physalis sulphurea</i>	N/A	LC
177	SOLANALES	SOLANACEAE	<i>Physalis tamayoi</i>	B1a(i)	NT
178	SOLANALES	SOLANACEAE	<i>Physalis tehuacanensis</i>	B2ab(iii)	CR
179	SOLANALES	SOLANACEAE	<i>Physalis virginiana</i>	N/A	LC
180	SOLANALES	SOLANACEAE	<i>Physalis volubilis</i>	N/A	LC

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181	SOLANALES	SOLANACEAE	<i>Physalis waterfallii</i>	N/A	LC
182	ROSALES	ROSACEAE	<i>Rubus adenotrichos</i>	B2ab(iii)	VU
183	ROSALES	ROSACEAE	<i>Rubus costaricanus</i>	B2ab(iii)	VU
184	ROSALES	ROSACEAE	<i>Rubus eriocarpus</i>	N/A	DD
185	ROSALES	ROSACEAE	<i>Rubus fagifolius</i>	N/A	DD
186	ROSALES	ROSACEAE	<i>Rubus miser</i>	N/A	DD
187	ROSALES	ROSACEAE	<i>Rubus urticifolius</i>	N/A	LC
188	SOLANALES	SOLANACEAE	<i>Solanum agrimonifolium</i>	N/A	LC
189	SOLANALES	SOLANACEAE	<i>Solanum bulbocastanum</i>	N/A	LC
190	SOLANALES	SOLANACEAE	<i>Solanum cardiophyllum</i>	N/A	LC
191	SOLANALES	SOLANACEAE	<i>Solanum clarum</i>	B1ab(iii)	VU
192	SOLANALES	SOLANACEAE	<i>Solanum demissum</i>	N/A	LC
193	SOLANALES	SOLANACEAE	<i>Solanum ehrenbergii</i>	N/A	LC
194	SOLANALES	SOLANACEAE	<i>Solanum guerreroense</i>	N/A	DD
195	SOLANALES	SOLANACEAE	<i>Solanum hintonii</i>	C2a(i)	NT
196	SOLANALES	SOLANACEAE	<i>Solanum hjertingii</i>	N/A	LC
197	SOLANALES	SOLANACEAE	<i>Solanum hougasii</i>	N/A	LC
198	SOLANALES	SOLANACEAE	<i>Solanum iopetalum</i>	N/A	LC
199	SOLANALES	SOLANACEAE	<i>Solanum jamesii</i>	N/A	LC
200	SOLANALES	SOLANACEAE	<i>Solanum lesteri</i>	N/A	DD
201	SOLANALES	SOLANACEAE	<i>Solanum michoacanum</i>	B1ab(iii)+2ab(iii)	EN
202	SOLANALES	SOLANACEAE	<i>Solanum morelliforme</i>	N/A	LC
203	SOLANALES	SOLANACEAE	<i>Solanum oxycarpum</i>	B2ab(iii)	EN
204	SOLANALES	SOLANACEAE	<i>Solanum pinnatisectum</i>	N/A	LC
205	SOLANALES	SOLANACEAE	<i>Solanum polyadenium</i>	N/A	LC
206	SOLANALES	SOLANACEAE	<i>Solanum sambucinum</i>	N/A	LC
207	SOLANALES	SOLANACEAE	<i>Solanum schenckii</i>	B2ab(iii)	EN

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208	SOLANALES	SOLANACEAE	<i>Solanum stenophyllidium</i>	N/A	LC
209	SOLANALES	SOLANACEAE	<i>Solanum stoloniferum</i>	N/A	LC
210	SOLANALES	SOLANACEAE	<i>Solanum tarnii</i>	B1ab(iii)	EN
211	SOLANALES	SOLANACEAE	<i>Solanum trifidum</i>	B1a(i)	NT
212	SOLANALES	SOLANACEAE	<i>Solanum vallis-mexici</i>	B1ab(iii)+2ab(iii)	EN
213	SOLANALES	SOLANACEAE	<i>Solanum verrucosum</i>	N/A	LC
214	CYPERALES	GRAMINEAE	<i>Tripsacum andersonii</i>	N/A	LC
215	CYPERALES	GRAMINEAE	<i>Tripsacum bravum</i>	N/A	DD
216	CYPERALES	GRAMINEAE	<i>Tripsacum intermedium</i>	B2ab(iii)	EN
217	CYPERALES	GRAMINEAE	<i>Tripsacum jalapense</i>	N/A	LC
218	CYPERALES	GRAMINEAE	<i>Tripsacum lanceolatum</i>	N/A	LC
219	CYPERALES	GRAMINEAE	<i>Tripsacum latifolium</i>	N/A	LC
220	CYPERALES	GRAMINEAE	<i>Tripsacum laxum</i>	N/A	LC
221	CYPERALES	GRAMINEAE	<i>Tripsacum maizar</i>	B2ab(iii,v)	EN
222	CYPERALES	GRAMINEAE	<i>Tripsacum manisuroides</i>	N/A	LC
223	CYPERALES	GRAMINEAE	<i>Tripsacum pilosum</i>	N/A	LC
224	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'guzmanii'</i>	N/A	LC
225	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'austromadrensis'</i>	N/A	LC
226	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'berthaudi'</i>	B1ab(iii,v)+2ab(iii,v)	VU
227	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'engelmannii'</i>	N/A	DD
228	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'lamazintlensis'</i>	N/A	DD
229	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'nororientalis'</i>	B1ab(iii)+2ab(iii)	VU
230	CYPERALES	GRAMINEAE	<i>Tripsacum sp. nov. 'ventricosum'</i>	N/A	DD
231	CYPERALES	GRAMINEAE	<i>Tripsacum zopilotense</i>	N/A	DD
232	ORCHIDALES	ORCHIDACEAE	<i>Vanilla cribbiana</i>	A3cd; C2a(i); D	CR
233	ORCHIDALES	ORCHIDACEAE	<i>Vanilla hartii</i>	A2cd; B2ab(i,ii,iii,v)	EN
234	ORCHIDALES	ORCHIDACEAE	<i>Vanilla helleri</i>	N/A	DD

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235	ORCHIDALES	ORCHIDACEAE	<i>Vanilla inodora</i>	B2ab(iii)	EN
236	ORCHIDALES	ORCHIDACEAE	<i>Vanilla insignis</i>	B2ab(iii,v)	EN
237	ORCHIDALES	ORCHIDACEAE	<i>Vanilla odorata</i>	B2ab(iii,v)	EN
238	ORCHIDALES	ORCHIDACEAE	<i>Vanilla phaeantha</i>	B2ab(iii,v)	EN
239	ORCHIDALES	ORCHIDACEAE	<i>Vanilla planifolia</i>	B2ab(iii,v)	EN
240	ORCHIDALES	ORCHIDACEAE	<i>Vanilla pompona</i>	B2ab(iii,v)	EN
241	CYPERALES	GRAMINEAE	<i>Zea diploperennis</i>	B1ab(iii)+2ab(iii)	EN
242	CYPERALES	GRAMINEAE	<i>Zea luxurians</i>	B2ab(iii,v)	VU
243	CYPERALES	GRAMINEAE	<i>Zea mays</i>	N/A	LC
244	CYPERALES	GRAMINEAE	<i>Zea mays subsp. huehuetenangensis</i>	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	EN
245	CYPERALES	GRAMINEAE	<i>Zea mays subsp. mexicana</i>	N/A	LC
246	CYPERALES	GRAMINEAE	<i>Zea mays subsp. mexicana chalco</i>	N/A	LC
247	CYPERALES	GRAMINEAE	<i>Zea mays subsp. mexicana durango</i>	B1ab(iii,v)+2ab(iii,v)	EN
248	CYPERALES	GRAMINEAE	<i>Zea mays subsp. mexicana mesa-central</i>	N/A	LC
249	CYPERALES	GRAMINEAE	<i>Zea mays subsp. mexicana nobogame</i>	B1ab(iii)	CR
250	CYPERALES	GRAMINEAE	<i>Zea mays subsp. parviglumis</i>	N/A	LC
251	CYPERALES	GRAMINEAE	<i>Zea perennis</i>	B1ab(v)+2ab(v)	EN

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Table 4. Working groups of participants during the regional workshop to assess the extinction risk of Mesoamerican crop wild relatives

Date	Group 1	Group 2	Group 3	Group 4	Group 5
February 13	<i>Phaseolus spp.</i> (87 species)	<i>Physalis spp.</i> (83 species)	Maíz (12 <i>Tripsacum</i> species, 7 <i>Zea</i> species)	<i>Persea spp.</i> (24 species)	
February 14	<i>Phaseolus spp.</i> (87 species)	<i>Physalis spp.</i> (83 species)	Maíz (12 <i>Tripsacum</i> species, 7 <i>Zea</i> species)	<i>Persea spp.</i> (24 species)	
February 15	<i>Phaseolus spp.</i> (87 species)	<i>Physalis spp.</i> (83 species)	Maíz (mañana), <i>Cucurbita spp.</i> (11 species) (tarde)	<i>Persea spp.</i> (mañana), <i>Solanum spp.</i> (tarde)	<i>Gossypium spp.</i> (13 species)
February 16	<i>Phaseolus spp.</i> (87 species)	<i>Physalis spp.</i> (83 species)	<i>Sechium spp.</i> (12 species)	<i>Solanum spp.</i> (28 species)	<i>Vanilla spp.</i> (9 species)
February 17	<i>Phaseolus spp.</i> (87 species)	<i>Physalis spp.</i> (83 species)	<i>Cucurbita spp.</i> (11 species)	<i>Solanum spp.</i> (28 species)	Additional taxa from Guatemala and El Salvador

Our preliminary results show a total of 75 taxa are categorized as threatened (6 Critically Endangered, 48 Endangered and 21 Vulnerable), 11 Near Threatened, 131 Least Concern and 34 Data Deficient. A total of 72 assessments were reviewed by the end of the workshop and will soon be published (Output 2, Activity 2.6).

Results of the climate change vulnerability assessment for the 251 species are still being analyzed (Annex 4 SM13).

Next steps are summarized below:

We will continue with the review process of assessments to get them published as soon as possible so the information can be used in the national conservation planning workshops in Guatemala, El Salvador and Mexico later this year, which conforms the second phase of the Darwin Initiative project. A press release will be planned with partners when the assessments are published. A total of 13 species could not be assessed because of last minute cancellations from experts; we will assess these species remotely. Other 21 taxa were not assessed because the experts clarified that are not related to crops.

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Workshop evaluation survey

We conducted a survey after the regional workshop to obtain feedback from participants regarding the training, logistics and outcomes. The survey consisted of 10 questions and we obtained responses from 27 of the 43 participants. The following charts present each question and a summary of the answers.

Q1. How clear the presentations were? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer. N/A refers to Not Applicable, in case the respondent did not attend that session of the workshop or the question does not apply to their role during the workshop.

Presentation title	Extremely clear	Very clear	Moderately clear	Somewhat clear	Not clear	N/A
Project: “Safeguarding Mesoamerican crop wild relatives” and the Darwin Initiative	23.08	65.38	0	0	0	11.54
IUCN Red List Categories and Criteria	22.22	62.96	3.70	0	0	11.11
Climate Change Vulnerability	14.81	48.15	29.63	0	0	7.41

Summary of respondents’ comments:

- Overall respondents commented that presentations were clear, however they point out that presentations should include particular elements that apply to crop wild relatives (CWR). For instance many CWR taxa are not found in wild habitat, and are associated to cultivated areas which would require the conservation of traditional agricultural systems and not only wild habitat. These agricultural systems are considered a mix of anthropic and natural habitats that are not included in the habitat scheme used by the IUCN.
- Also respondents pointed out the need to clarify the definition of gene pool (primary, secondary, and tertiary).
- Respondents commented on the need to adjust the duration of the talks in order to allow for more time for questions and discussions

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Q2. How useful presentations were? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer. N/A refers to Not Applicable, in case the respondent did not attend that session of the workshop or the question does not apply to their role during the workshop.

Presentation title	Extremely useful	Very useful	Moderately useful	Somewhat useful	Not useful	N/A
Project: “Safeguarding Mesoamerican crop wild relatives” and the Darwin Initiative	23.08	61.54	3.85	0	0	11.54
IUCN Red List Categories and Criteria	26.92	57.69	3.85	0	0	11.54
Climate Change Vulnerability	18.52	38.04	37.04	0	0	7.41

Summary of respondents’ comments:

- Concepts explained needed reinforcement by working on real examples, particularly to better understand the climate change vulnerability questionnaire.
- Some of the multiple choice questions in the climate change vulnerability questionnaire are lacking all the potential answers, for example the regeneration types.
- More examples with real species were needed to understand some of the concepts, for example, generation length.

Q3. How organized the workshop was? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer.

	Extremely organized	Very organized	Moderately organized	Somewhat organized	Not organized
Logistics (transportation, hotel)	46.15	50	3.85	0	0
Working groups	40.74	48.15	11.11	0	0

Summary of respondents’ comments:

- The role of the facilitator in each working group was not clearly explained.
- Because many different taxonomic groups were being evaluated simultaneously, more support personal and trained facilitators were needed.

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Q4. How convenient was the event venue? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer.

Answer choices	Responses
Extremely convenient	40.74
Very convenient	59.26
Moderately convenient	0
Somewhat convenient	0
Not convenient	0

Summary of respondents' comments:

- Very nice hotel and city
- Excellent venue, very easy to get to and provided an ideal space for work and stay focused

Q5. Did the workshop meet your expectations? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer.

Answer choices	Responses
Much more than expected	22.22
More than expected	55.56
As expected	22.22
Worse than expected	0
Much worse than expected	0

Summary of respondents' comments:

- Not satisfied with the evaluation results for some species.
- The workshop was fundamental for evaluating the extinction risk of the species with the expert opinion.

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Q6. What is your opinion on the duration of the workshop? This is a multiple-choice kind of question.

Answer choices	Responses
Too long	0
Somewhat long	11.11
Adequate	81.48
Somewhat short	3.7
Short	3.7

Q7. How likely is that you attend a similar workshop in the future? This is a multiple-choice kind of question.

Answer choices	Responses
Extremely likely	37.04
Very likely	59.26
Likely	3.7
Not very likely	0
Not likely	0

Q8. Were the information already captured on the Species Information System (IUCN SIS) and the distribution maps useful? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer. N/A refers to Not Applicable, in case the respondent did not attend that session of the workshop or the question does not apply to their role during the workshop.

	Extremely useful	Very useful	Moderately useful	Somewhat useful	Not useful	N/A
Base information	25.93	40.74	22.22	0	3.7	7.41
Distribution maps	28	52	12	0	4	4

Summary of respondents' comments:

- In general, the data and maps were good. There were a few cases where information was wildly incorrect, and this slowed things down having to go back and check/update.
- It is important to check taxonomy with the experts because several species were not updated

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- Overall distribution maps were very useful; however for a few species maps were incorrect

Q9. How satisfied are you with the results of the evaluations where you participated (in relation to the risk categories assigned for each taxa)? This is a multiple-choice kind of question, and included a comments section. Numbers indicate the percent of respondents that selected each answer. N/A refers to Not Applicable, in case the respondent did not attend that session of the workshop or the question does not apply to their role during the workshop.

Answer choices	Responses
Extremely satisfied	11.11
Very satisfied	55.56
Moderately satisfied	14.81
Somewhat satisfied	0
Not satisfied	0
N/A	18.52

Summary of respondents' comments:

- For most taxa, an appropriate category was assigned. However, there was uncertainty associated with the available data for several taxa and the resulting category is doubtful.
- It is important to discuss and come to consensus on the authorship of each evaluation to be published
- Some of the criteria applied were not appropriate in some cases, because it did not consider the uniqueness of each subpopulation and evaluating for the entire range of the species results in a least concern category.

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Q10. Was there a barrier that hindered your work focus during the workshop? This was an open question for comments.

Summary of respondents' comments:

- None
- Having the CWR RLA present was sometimes a little disruptive. It is important at such workshops to keep experts' minds on the task at hand, and having the RLA regularly referring back to past species assessments was distracting and made progress less efficient
- Interruptions to translate from Spanish to English took time and did not help the discussion
- The climate change questionnaire is too long and it was difficult to complete at the same time as the risk category assessments
- The IUCN Species Information System did not work well during the workshop because some of the information already captured would disappear and the facilitator would have to log out and log in again in order to recover information already captured

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Workshop agenda

Sunday February 12

19:00 hrs Welcome Cocktail at the venue hotel

Monday February 13

09:30 – 10:30 Welcome message and participants introductions. Introduction talk about the Darwin Initiative project: “Safeguarding Mesoamerican Crop Wild Relatives”

10:30 – 11:20 IUCN Categories and Criteria

11:20 – 11:40 Coffee break

11:40 – 12:30 Climate Change Vulnerability Assessment

12:30 – 13:30 Definition of key vegetation classes

13:30 – 14:30 Lunch

14:30 – 17:00 Evaluation example

17:00 – 18:00 Comments and Questions

Tuesday February 14

09:00 – 11:00 Group work

11:00 – 11:20 Coffee break

11:20 – 13:30 Group work

13:30 – 14:30 Lunch

14:30 – 17:30 Group work

Wednesday February 15

09:00 – 11:00 Group work

11:00 – 11:20 Coffee break

11:20 – 13:30 Group work

13:30 – 14:30 Lunch

14:30 – 17:30 Group work

Thursday February 16

09:00 – 11:00 Group work

11:00 – 11:20 Coffee break

11:20 – 13:30 Group work

13:30 – 14:30 Lunch

14:30 – 17:30 Group work

Friday February 17

09:00 – 11:00 Group work

11:00 – 11:20 Coffee break

11:20 – 13:30 Group work

13:30 – 14:30 Lunch

14:30 – 17:00 Group work

17:00 – 17:30 Closing talk

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Workshop photos



Regional workshop participants



Regional workshop, first training day presentations and discussion

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Regional workshop, first training day presentations and discussion



Regional workshop, *Persea* experts working group

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Regional workshop, *Zea* and *Tripsacum* experts working group



Regional workshop, *Phaseolus* experts working group

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Regional workshop, *Physallis* working group



Regional workshop, experts and facilitators working on risk assessments