

Adapting agriculture to climate change:
collecting, protecting and preparing crop wild relatives

Ecuador



Seed Collecting Guide

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The content of this collecting guide is intended only as a general reference for future collecting missions; the contents and data within are not guaranteed to be complete, correct, timely, current or up-to-date at the time of publishing. For general information and resources on collecting crop wild relatives, visit cwrdiversity.org.

Cover photos

TOP LEFT: Vilcabamba, Ecuador, CREDIT: The lifted lorax/Wikimedia

TOP RIGHT: *Ipomoea involucreta*, CREDIT: RBG Kew;

BOTTOM LEFT: *Ipomoea cairica*, CREDIT: Sheldon Navie;

BOTTOM RIGHT: *Solanum grandiflorum*, CREDIT: www.colecionandofrutas.org

This work was undertaken as part of the initiative “Adapting Agriculture to Climate Change” which is supported by the Government of Norway. The project is managed by the Global Crop Diversity Trust with the Millennium Seed Bank of the Royal Botanic Gardens, Kew, in partnership with national and international genebanks and plant breeding institutes around the world. It is implemented in accordance with the International Treaty on Plant Genetic Resources for Food and Agriculture. For further information see the project website: www.cwrdiversity.org/

Many individual scientists, herbaria, genebanks and specialist institutes are contributing advice and information to the Project and these guides. The Project aims to collect the wild relatives of 29 key crops, conserve them in genebanks, and prepare them for use in plant improvement programs to breed new crop varieties adapted to future climates.



The boundaries and names shown on the maps included in this guide do not imply official endorsement or acceptance by the Adapting Agriculture to Climate Change Project. Data source: GADM, Version 1.0 via diva-gis.org

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The Harlan and de Wet Crop Wild Relatives Checklist was developed by Holly Vincent and Nigel Maxted at the University of Birmingham.

UNIVERSITY OF
BIRMINGHAM



International Center for Tropical Agriculture
Since 1967 *Science to cultivate change*

The Gap Analysis work which informed the list of species included in this guide, and all the map files, were produced by the Gap Analysis team at CIAT: Andy Jarvis, Nora Castañeda, Colin Khoury and Julian Ramirez-Villegas.

RBG Kew is involved in the research and collection phases of the project. This collecting guide was developed based on the work of the Millennium Seed Bank Enhancement Project Species Targeting Team.

Royal Botanic Gardens
Kew



The Crop Wild Relatives Project is led by the Global Crop Diversity Trust. This work was undertaken as part of the initiative.

Specimen data was kindly provided to this project by many individuals and organisations who are listed on the website: <http://www.cwrdiversity.org/home/data-sources>

This data set will be made available for download. Please refer to the website for more information on this dataset.

This collecting guide has been compiled by:

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This collecting guide consists of species profiles and information sheets contained within this folder, alongside a CD which contains localities of the taxa in an excel file.

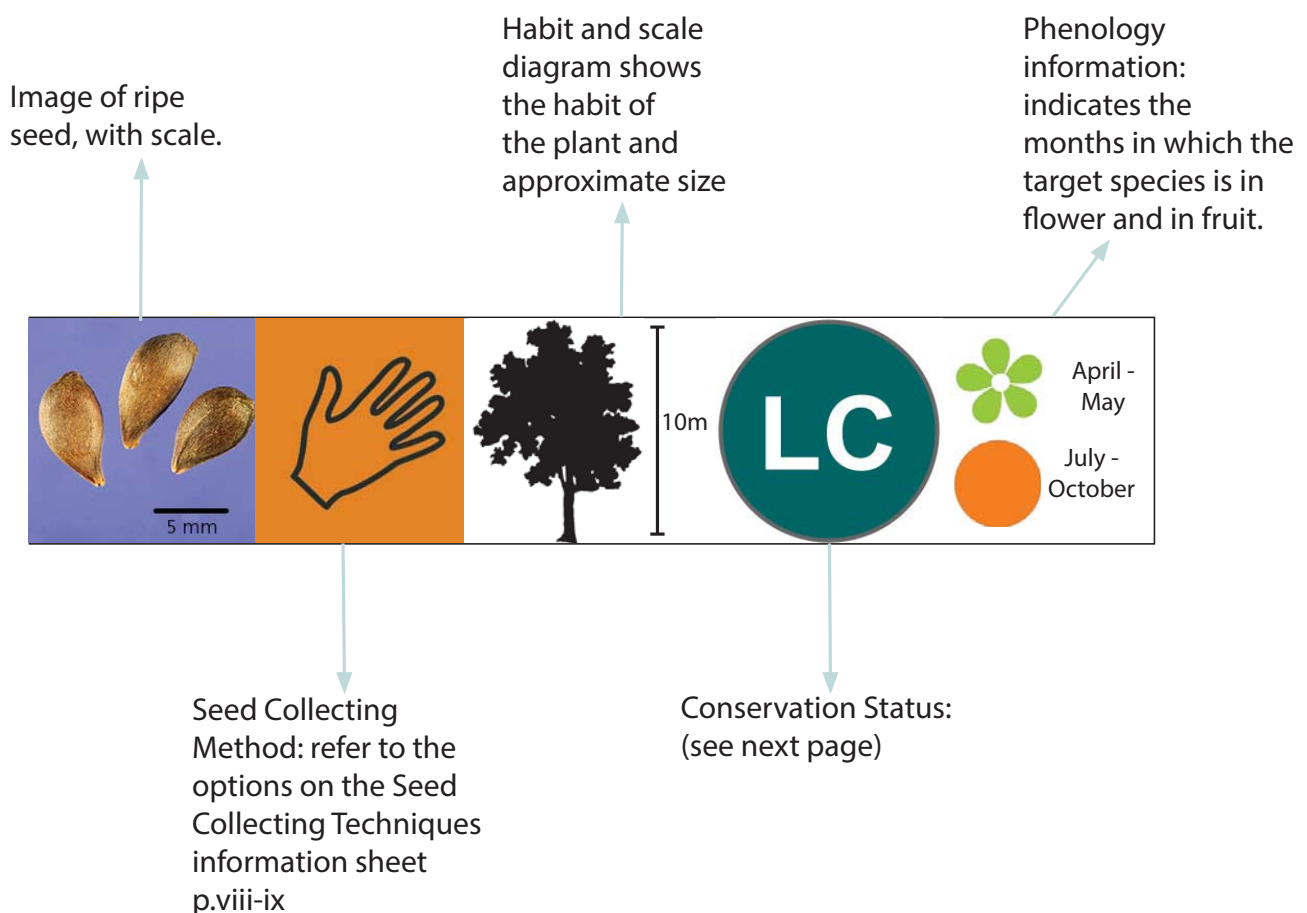
The species included in this guide are a selection of the wild relatives of the 29 key crops which this project covers (African Rice, Alfalfa, Apple, Aubergine, Bambara groundnut, Banana, Barley, Bread Wheat, Butter Bean, Carrot, Chickpea, Common Bean, Cowpea, Faba bean, Finger millet, Grasspea, Lentil, Oat, Pea, Pearl millet, Pigeon pea, Plantain, Potato, Rice, Rye, Sorghum, Sunflower, Sweet potato, Vetch). It is not a definitive guide to the Crop Wild Relatives in this country.

The guides are designed to be used both in the planning of a collecting trip, and also in the field.

At the front of this guide there is a phenology table showing the flowering and fruiting times of all the taxa to indicate which species may be found at a certain time of year, or when to collect target species.

Synonyms for each species are listed in the Appendix at the end of this guide.

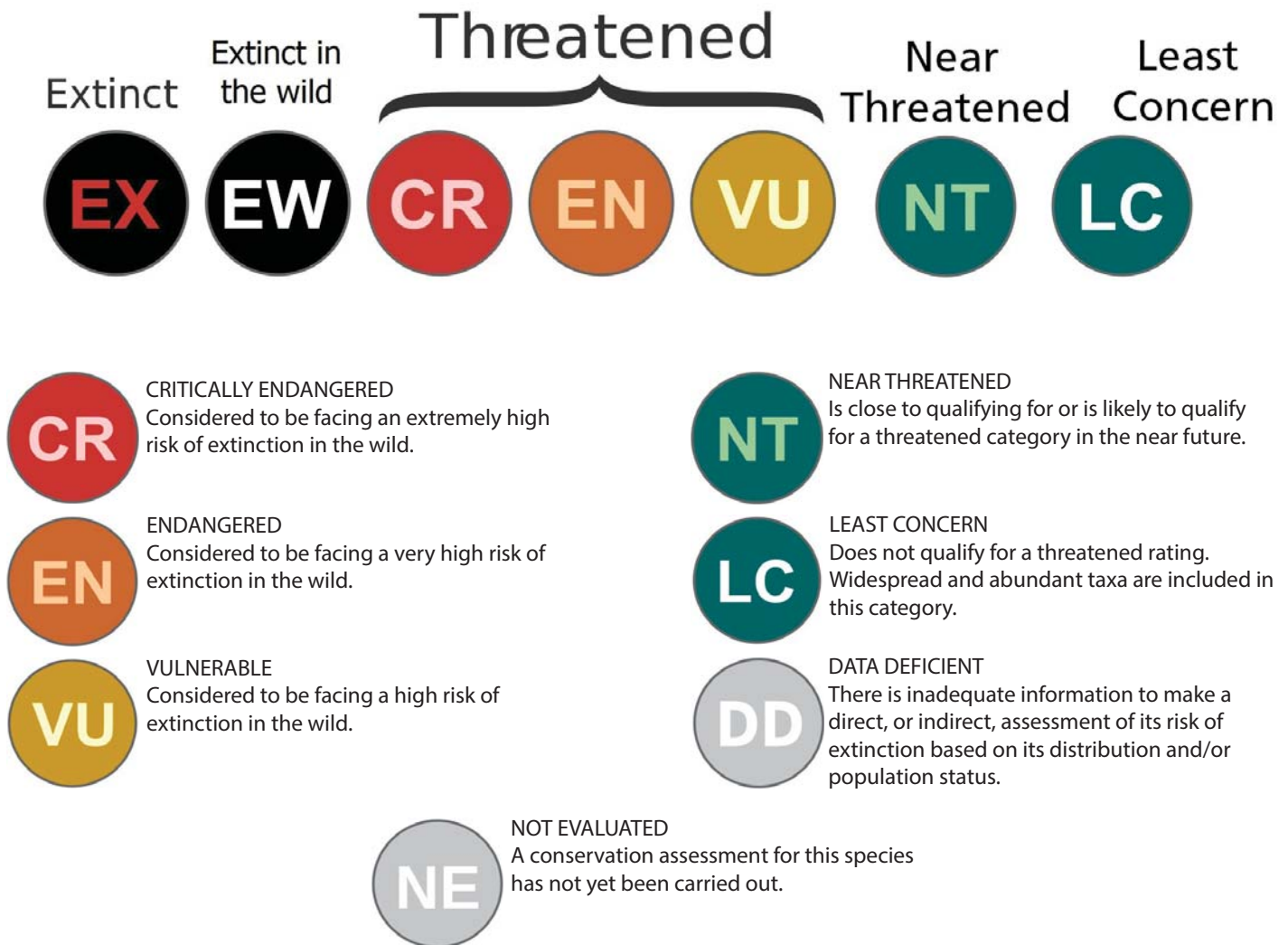
On each species profile, there is a collection of images to help identify the target species, accompanied by a series of symbols :



Conservation Assessments

Conservation Status:

Assessments are completed using 2001 IUCN Red List Categories and Criteria version 3.1 with the following categories:



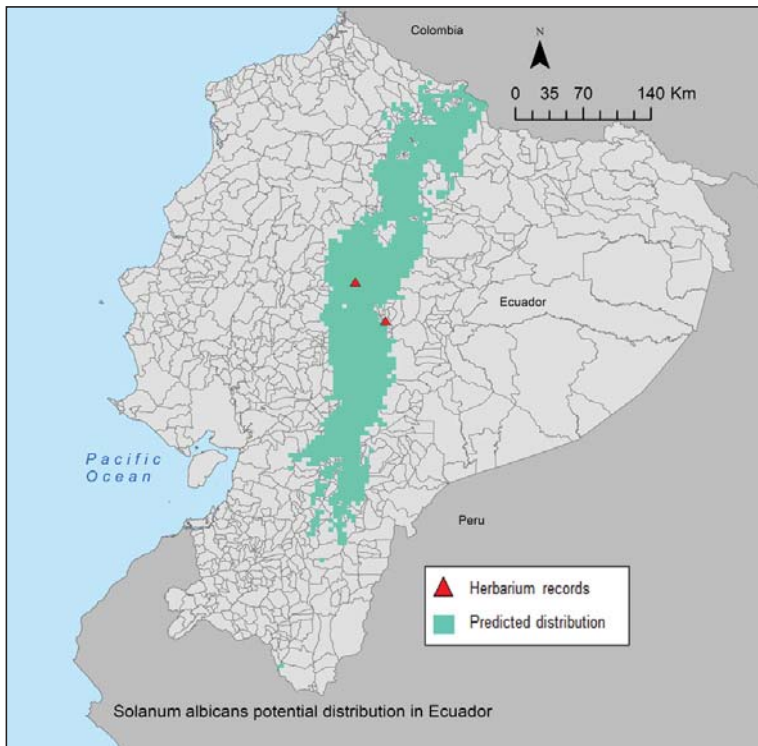
Where a full conservation assessment has not been completed, a preliminary conservation rating may be indicated. Preliminary assessments are produced using specimen locality data and GIS, which calculates two parameters accepted by IUCN as suitable measures of range: namely extent of occurrence (EOO) and area of occupancy (AOO). These values derived for each species are then compared with thresholds set out by IUCN under Criterion B.

Where a preliminary conservation assessment has been calculated this is indicated by the word PRELIM:

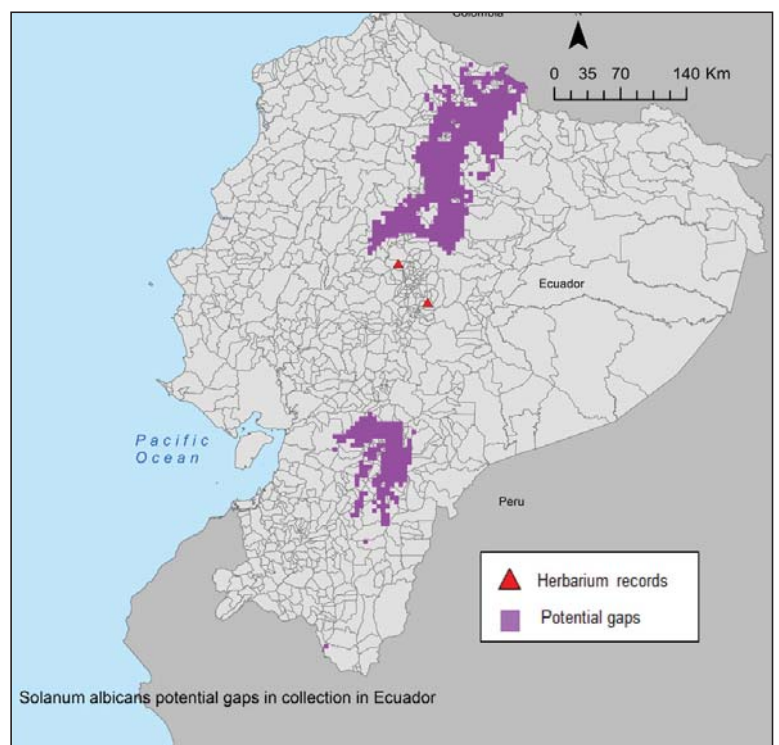


Maps

Two maps are provided for each target species. The first map shows a point distribution of all the known localities of this species based on herbarium specimen records and existing data-sets. The area shaded on this map shows the predicted distribution based on Maxent.



The second map shows the potential gaps in gene bank collections, where seed collections should be targeted.



Useful resources

The following resources are available online.

Kew technical information sheets

- Assessing a potential seed collection:
<http://brahmsonline.kew.org/Content/Projects/msbp/resources/Training/02-Assessing-population.pdf>
- Post-harvest handling of seed collections:
<http://brahmsonline.kew.org/Content/Projects/msbp/resources/Training/04-Post-harvest-handling.pdf>

Other sheets covering the following topics are available from

<http://brahmsonline.kew.org/msbp/Training/Resources>

- Protocol for comparative seed longevity testing
- Measuring seed moisture status using a hygrometer
- Selecting containers for long-term seed storage
- Low-cost monitors of seed moisture status
- Small-scale seed drying methods
- Equilibrating seeds to specific moisture levels
- Identifying desiccation-sensitive seeds
- Seed bank design: seed drying rooms
- Seed bank design: cold rooms for seed storage
- Cleaning seed collections for long-term conservation

ENSCONET seed collecting manual for wild species

http://ensconet.maich.gr/PDF/Collecting_protocol_English.pdf

Seed conservation: turning science into practice

<https://academic.oup.com/aob/article/95/5/888/201951>

Collecting plant genetic diversity: Technical guidelines (Bioversity)

http://cropgenebank.sgrp.cgiar.org/index.php?option=com_content&view=article&id=390&Itemid=557

FAO – Commission on Genetic Resources for Food and Agriculture

<http://www.fao.org/nr/cgrfa/en/>

IUCN Red List Categories and Criteria (Version 3.1)

<https://iucn-csg.org/red-list-categories/>

Plants of the World Online

<http://plantsoftheworldonline.org/>

For more information about the Crop Wild Relatives Project and to access the Harlan and de Wet Crop Wild Relatives checklist, please visit the website:

www.cwrdiversity.org

Identification Keys

Interactive identification keys can be accessed using the links below.

[Kew Grassbase interactive identification key](http://www.kew.org/data/grasses-db/ident.htm)

<http://www.kew.org/data/grasses-db/ident.htm>

Clayton, W.D., Vorontsova, M.S., Harman, K.T. and Williamson, H. (2006 onwards). GrassBase - The Online World Grass Flora. <http://www.kew.org/data/grasses-db.html>. [accessed 15 March 2012; 14:30 GMT]

Seed Collecting Techniques

Michael Way and Kate Gold, Seed Conservation Department

Seed collecting from wild plants requires care, resourcefulness and determination. There are many different collecting techniques. The most appropriate technique will depend on the species, particularly the type of dispersal unit (fleshy fruit, dry fruit, individual seeds etc). This information sheet outlines the manual techniques most commonly used to make seed collections of adequate quality and quantity, for long term conservation.

Hand picking of whole fruits

The most basic and flexible of techniques, hand picking or plucking, has many benefits. Consider though, if you can use a more efficient technique.



Plucking is particularly suitable when:

- target fruits can easily be selected by eye (e.g. due to colour or texture change of fruit coat, or swelling of fruit);
- non-target (e.g. immature or damaged) fruit cannot be excluded from the collection by more efficient techniques;
- fruits are easily accessible and collectors can tie buckets or similar containers around the waist, releasing both hands for collecting;
- collecting many-seeded fleshy or dry indehiscent fruits; and
- making small seed collections.

Pruning clusters of fruit

This technique is typically used to collect tree seeds. Cut groups or clusters of fruits using secateurs or tree pruners. Assess for ripeness and damage before adding seeds to the collection.

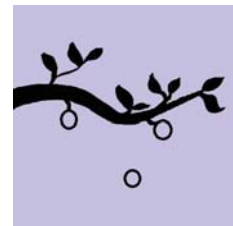


This is a very effective technique when:

- seed is clustered at the distal (terminal) parts of branches;
- the species is abundant and a small associated loss of branch and foliage is acceptable;
- seed is beyond reach of the collectors and has to be obtained using tree pruners.

Shaking branches

Careful shaking of branches will sometimes dislodge the best available seed, which can be collected in buckets or on a tarpaulin held or spread out beneath the plant. Start with gentle taps, and carefully check each sample of seed dislodged. Light shaking will often dislodge fully ripe fruits and seeds, leaving immature, poorly developed and damaged seeds to be retained on the parent plant. Too-heavy beating of branches may cause damage to the tree, and may also dislodge other plant material and associated insects, necessitating additional cleaning of the collection.



Shaking branches may be useful when collecting:

- dehiscent fruits with medium large seeds;
- seeds with irritant plumes (e.g. *Cercocarpus* of the Rosaceae);
- spiny trees such as *Prosopis* (Fabaceae);
- on level, open terrain suitable for tarpaulin use.

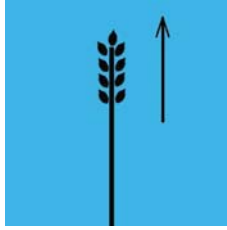
This technique may not be suitable for light, plumed seed from *Bombacaceae* and *Asclepiadaceae*, which may be carried away by air currents.



ABOVE: Stripping seed heads may be appropriate for grasses
Credit: Global Crop Diversity Trust/Britta Skagerfalt

Stripping entire seed-heads

This is a popular technique for collecting seed from grasses and may be suitable for other species with erect infructescences (seedheads). Grasp the seedheads at the base with a gloved hand and slide the hand upwards, dislodging many or all of the seeds. This technique may introduce a proportion of immature seeds into the collection. Such seeds might need further postharvest ripening which can be time consuming and is best avoided.

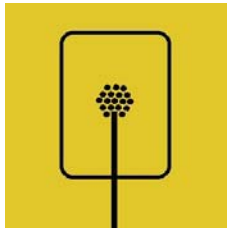


The stripping technique is most suitable for:

- dense, mono-specific stands of target species with no weed or other species present; and
- infructescences which are completely and consistently at the natural dispersal stage.

Bagging seed-heads

If there is frequent access to the collecting site, and if seeds would otherwise be lost, fix a well-tied mesh bag loosely over pre-dispersal seed heads. Seeds are captured as soon as they are shed, and can be periodically removed. This has been successfully used on a small scale, e.g. for collecting *Fouquieria* sp.



Collecting from the ground

You will frequently find seeds on the ground below trees or shrubs, but they will often be damaged by pests or pathogens. The seeds may have been on the ground for several months, and could even date from the previous year. Such seed will have aged and life-span in storage will be reduced. Inspect the seed carefully, noting any variation in the fruit, seed coat and internal tissues.



In general, only collect from the ground when:

- the parent tree(s) can be determined without doubt;
- you are certain that you are collecting recently dispersed seeds;
- seeds have not suffered significant damage from pests or pathogens; and
- other techniques or collecting options are unsuitable.

Collecting fleshy fruits

- Collect fleshy fruits directly into strong plastic bags or tubs with as much air as possible.
- Pack the bags in a rigid plastic container to ensure that the fruits are not squashed and help prevent them getting too hot and fermenting during transit.
- You may need to remove the seeds from fleshy fruits either during or immediately after the field trip.



ABOVE Collecting small seeds into paper bags
Credit: Ruth Harker/ RBG Kew

Containers

Collect into buckets, cloth or paper bags, and check each person's sample carefully before combining into a single population collection.

Using buckets has the advantage of allowing you to monitor the quality of the collection whilst associated insects disperse freely.

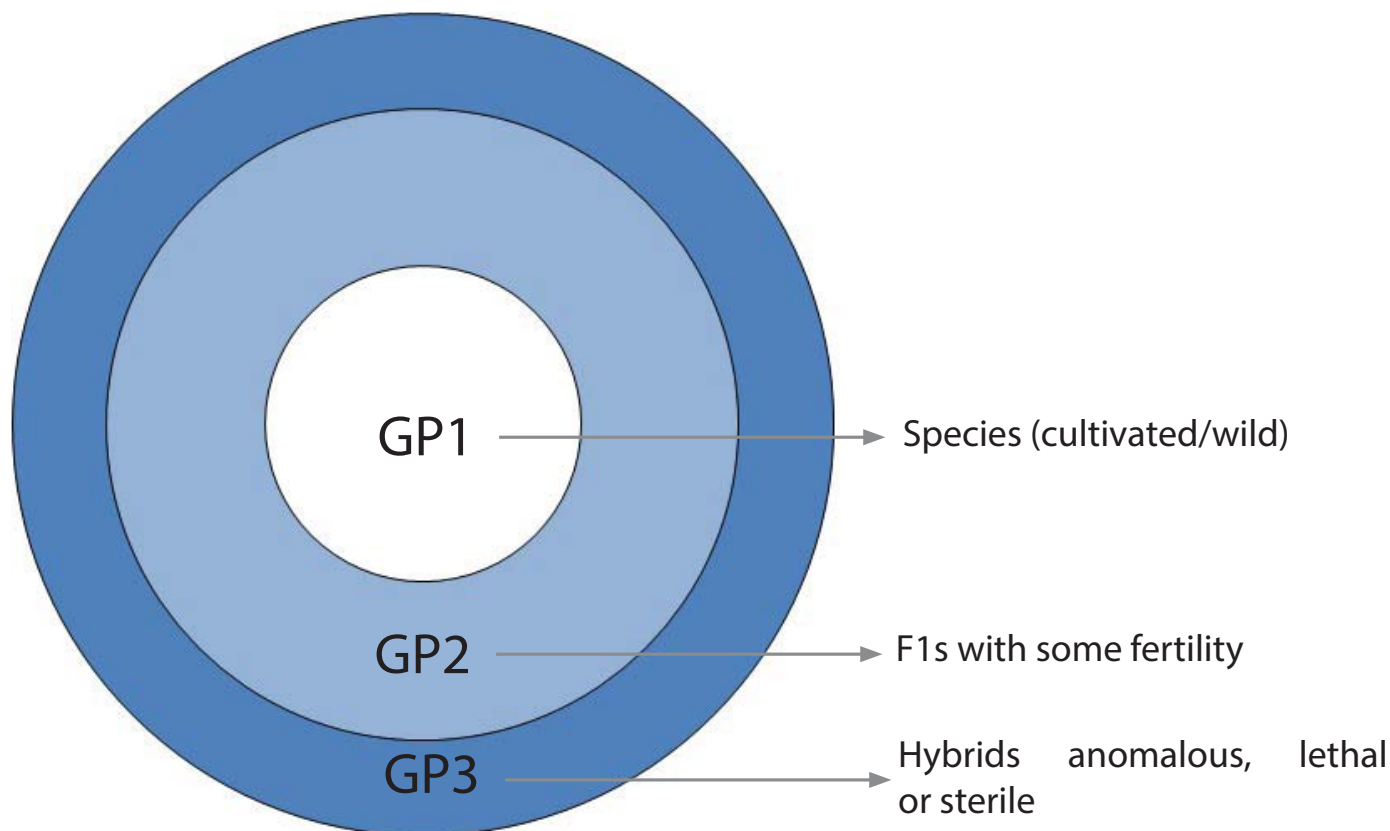
Place collections of dry, ripe seed into cloth or paper bags for transit. Store any awned seed or hooked fruit, that would damage or get stuck in cotton bags, in cardboard boxes or strong paper bags. Never collect or store seeds in plastic bags.

Label all seed containers inside and out with a unique collection number, and seal them securely. It is best to prepare sufficient labels before filling the containers.

Each target species in this guide is a wild relative of a crop. On each species profile it is indicated how closely related the target species is to the crop using either the Gene Pool concept or the Taxon Group concept. Species more closely related to the crop are higher priorities for collecting.

Gene Pool Concept

Harlan and de Wet, 1971



Taxon Group Concept

Maxted et al. 2006

Taxon Group 1 – cultivated/wild form of the crop

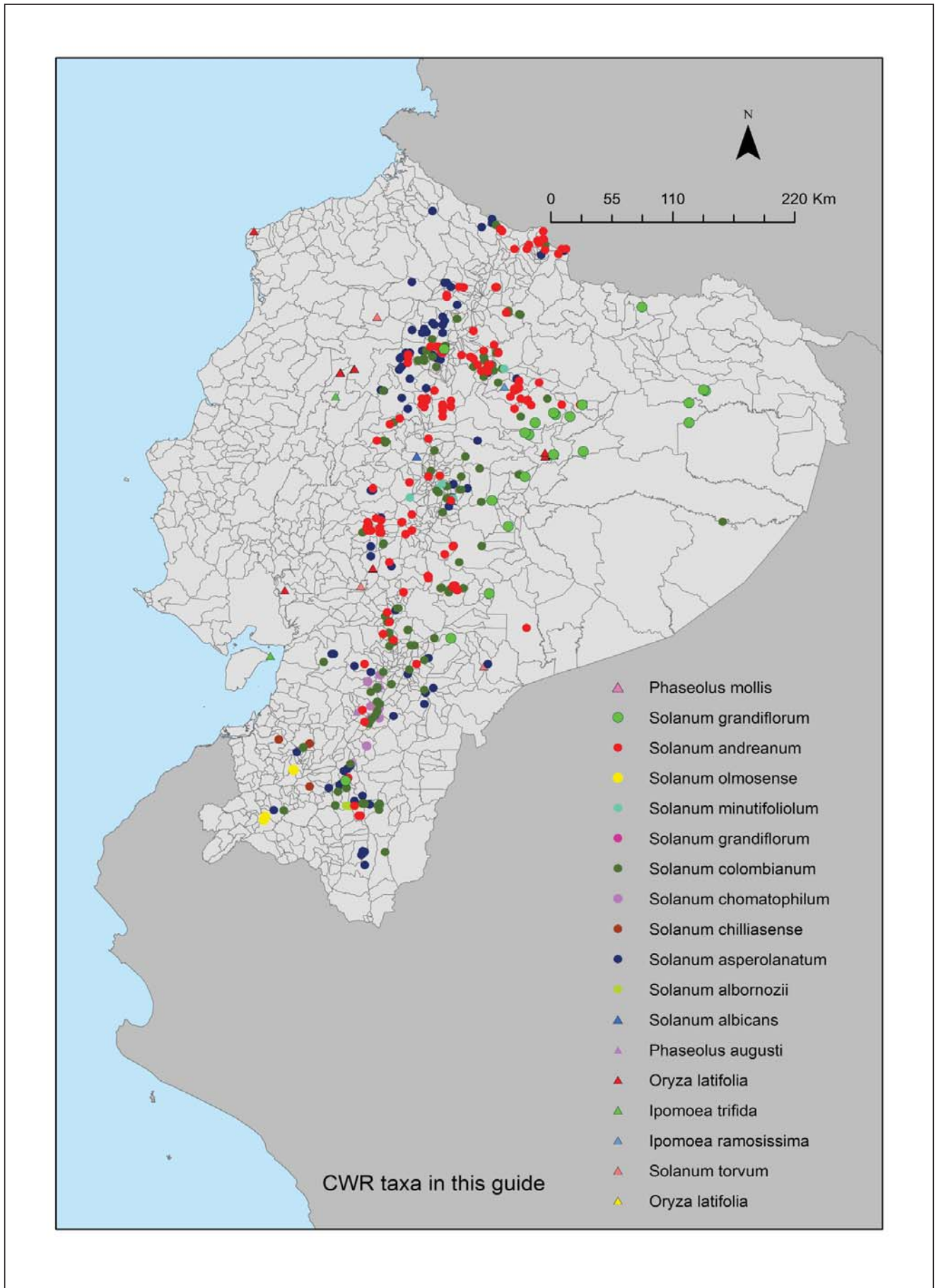
Taxon Group 2 – species in same series/section as crop

Taxon Group 3 – species in same subgenus as crop

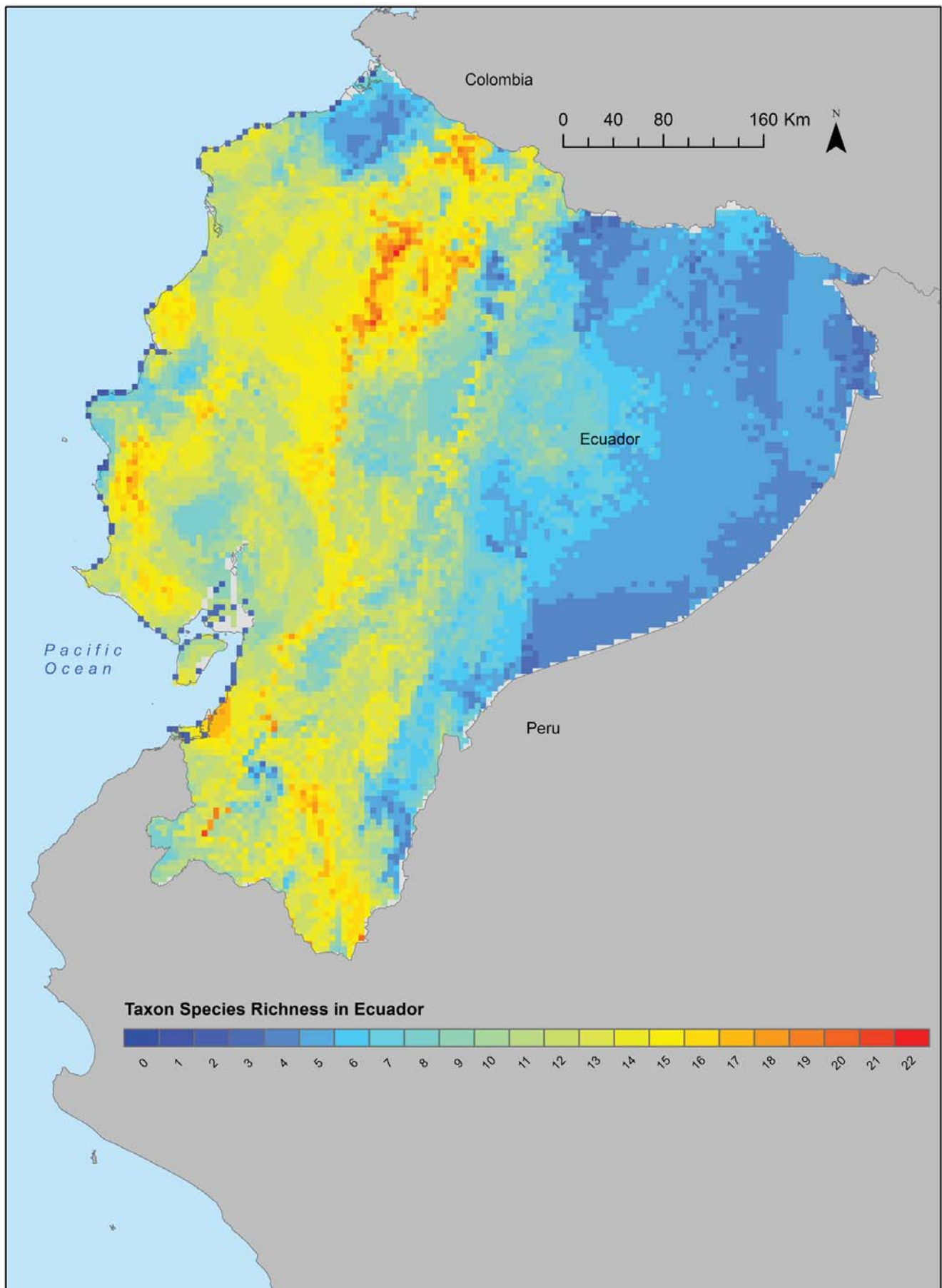
Harlan, J. and J. de Wet (1971). Towards a rational classification of cultivated plants. *Taxon* 20: 509-517.

Maxted, N., B.V. Ford-Lloyd, S.L. Jury, S.P. Kell and M.A. Scholten (2006). Towards a definition of a crop wild relative. *Biodiversity and Conservation* 14: 1-13.

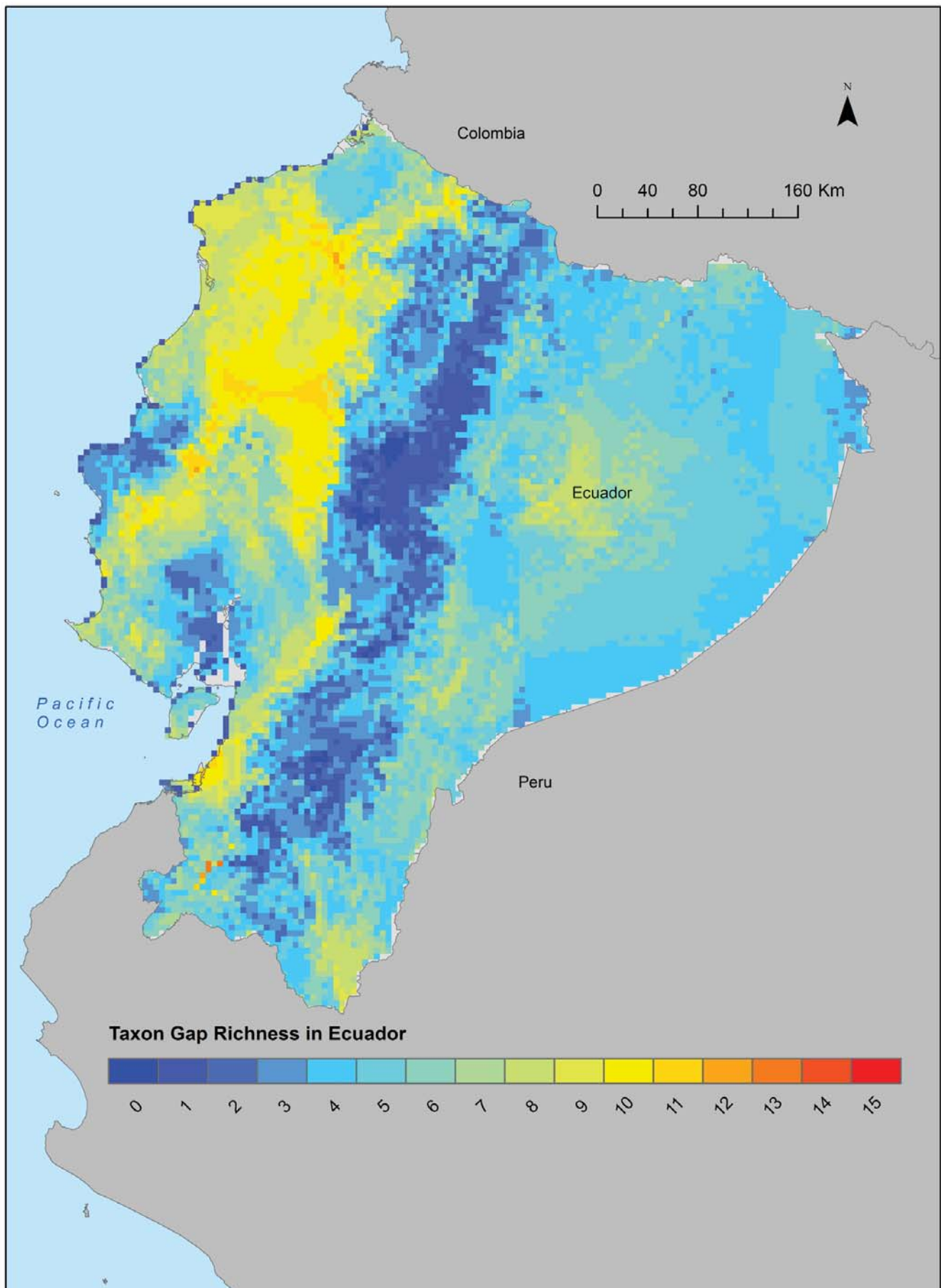
Occurences of all taxa in this guide, as a point distribution



Species richness



Gap richness



Species in this guide

Species profiles are arranged alphabetically by family and taxon.

Family	Taxon	Genepool	Collection Priority	Sheet
Convolvulaceae	<i>Ipomoea ramosissima</i>	Sweet Potato	High	1
Convolvulaceae	<i>Ipomoea tiliacea</i>	Sweet Potato	High	2
Convolvulaceae	<i>Ipomoea trifida</i>	Sweet Potato	Low	3
Leguminosae	<i>Phaseolus augusti</i>	Lima Bean	Low	4
Leguminosae	<i>Phaseolus mollis</i>	Lima Bean	High	5
Poaceae	<i>Oryza latifolia</i>	Rice	High	6
Solanaceae	<i>Solanum albicans</i>	Potato	Low	7
Solanaceae	<i>Solanum albornozii</i>	Potato	Low	8
Solanaceae	<i>Solanum andreanum</i>	Potato	Low	9
Solanaceae	<i>Solanum asperolanatum</i>	Egg Plant	High	10
Solanaceae	<i>Solanum chilliasense</i>	Potato	Low	11
Solanaceae	<i>Solanum chomatophilum</i>	Potato	Low	12
Solanaceae	<i>Solanum colombianum</i>	Potato	Low	13
Solanaceae	<i>Solanum grandiflorum</i>	Egg Plant	High	14
Solanaceae	<i>Solanum minutifolium</i>	Potato	Low	15
Solanaceae	<i>Solanum olmosense</i>	Potato	High	16
Solanaceae	<i>Solanum torvum</i>	Egg Plant	Low	17

Phenology table

Taxon	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<i>Solanum olmosense</i>												
<i>Solanum torvum</i>												

KEY



Species in flower

Species in fruit

Data gathered from literature and herbarium specimens

Gene Pool Tertiary relative of *Ipomoea batatas* (L.) Poir

HABIT: Perennial vines; 4-5 m stems, herbaceous, twining, slender, glabrous.

LEAVES: 2-9 cm long 1-7 cm wide, entire, toothed, 3-7-lobed, 2-9 cm long, 1-7 cm wide, narrow to broadly ovate in its general form, entire, irregularly dentate, glabrous, the base cordate, acute to acuminate apex.

INFLORESCENCE: Simple to composite tops, 2-12 flowered; sepals 4-5 mm, roughly equal or slightly shorter exterior, oblong-obovate to obovate, obtuse to truncate at the apex, apiculate.

FLOWER: Funnelform, 1.3-2.4 cm long, pink to purple, interior of the tube purple, glabrous; sepals subequal or the outer slightly shorter, the outer obovate to elliptic-obovate, 4.5-6.5 mm long, obtuse, the inner obovate to elliptic, 5.5-7 mm long, obtuse, all mucronate and glabrous, at least the inner cochleate; stamens with white anthers and filaments.

CAPSULES: 5-7 mm in diameter, more or less globose, glabrous.

SEEDS: 1-4, 2-2.5 mm long, brown to black, subglobose to ellipsoid, glabrous or with short caducous trichomes on the margins.

Habitat:

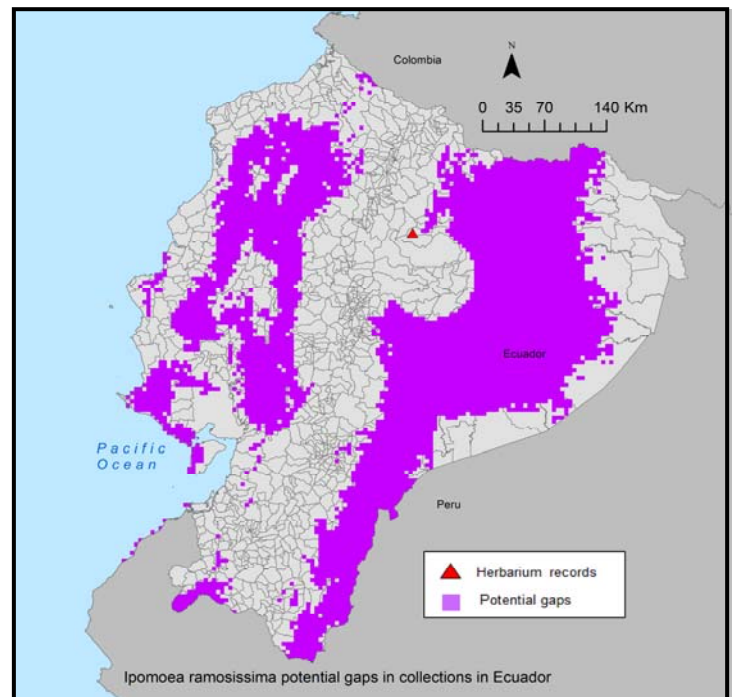
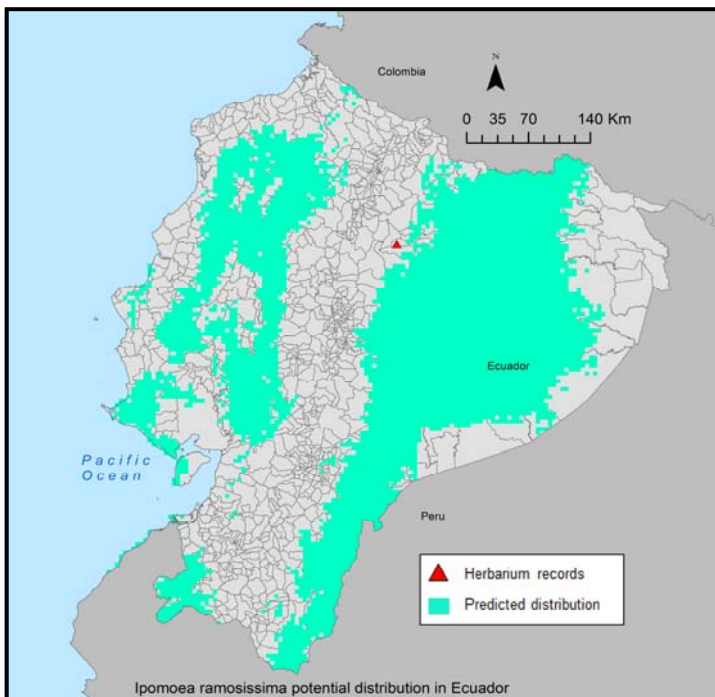
Rainforest, Semideciduous Forest, pastures and roadsides.

Distribution:

Ecuador, Costa Rica, Guatemala, Peru, Argentina, Paraguay, Bolivia, Mexico, Brazil.

Altitude: 0 - 2000 m

<i>Ipomoea ramosissima</i>	May be confused with: <i>Ipomoea trifida</i>
Flowers, 1.3-2.4 cm long. Capsules, glabrous or with short caducous trichomes on the margins.	Flowers 3-4 cm long. Capsules, short-bristly pubescent.



References: Austin, D.F., (1978), Bulletin of the Torrey Botanical Club.

Gene Pool Tertiary relative of *Ipomoea batatas* (L.) Poir



See above
for seed
image



4-5 m



Nov-Mar

Nov-Apr

Provisional Secondary Gene Pool relative of *Ipomoea batatas* (L.) Poir

HABIT: Stems twining, slender, several metres long, glabrous or hirsute, lignescent.

LEAVES: Ovate, 5-15 by 3-10 cm, cordate at the base, acuminate, with an acute or mucronulate acumen, mostly entire, glabrous or appressed-pilose; petiole slender, 3-7 cm.

INFLORESCENCES: Axillary; peduncles solitary or in pairs, as long as, or often longer than the petiole, 4-15 cm, cymosely few- to several-flowered. Pedicels 5-12 mm. Bracts minute, narrow-lanceolate.

FLOWERS: Sepals glabrous or sparsely fimbriate at the margins, nearly equal in length or the outer ones shorter; outer sepals oblong or ovate-lanceolate, acute, mucronulate, 5-10 mm long, inner ones elliptic, acute or obtuse, often with a less distinct mucronate, to 10 mm long. Corolla funnel-shaped, ca 4-6 cm long, glabrous, pink or purple, often with a darker centre, or rarely white. Stamens and style included; filaments sparsely pubescent nearly to the apex. Ovary glabrous.

FRUITS: Capsule globular, 2-celled, 4-valved.

SEEDS: 4, glabrous or pilose along the edges.

Habitat:

River banks, clearings in secondary forests.

Distribution:

Native to Australia and New Zealand, the Caribbean, South and Central America, and South Eastern Asia. Also known from Cameroon.

Altitude: 0 - 100 m

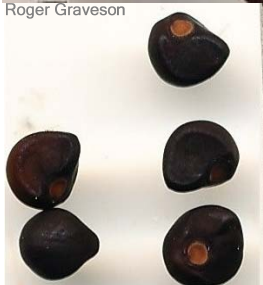
<i>Ipomoea tiliacea</i>	May be confused with: <i>Ipomoea littoralis</i>
Corolla funnel shaped 4-6 cm. Capsule globular.	Corolla funnel shaped 3-4.5 cm. Capsule depressed globose.

Reported from Ecuador, but no localities known.

All populations priority for collection

References:

Provisional Secondary Gene Pool relative of *Ipomoea batatas* (L.) Poir



several
m long



Jul-Apr

Jul-Sep

Gene Pool Secondary relative of *Ipomoea batatas* (L.) Poir

HABIT: Vines, twining or prostrate stems mostly over 1 m long, glabrous or commonly with short-pilose indumentum.
LEAVES: Broadly ovate to suborbicular, entire, coarsely dentate to deeply 3-5 lobed, occasionally 7-lobed, 3-10 cm long and wide, basally cordate, the basal lobes rounded or angular to lobed, the apex acute, obtuse or sometimes acuminate, both surfaces glabrous or short-pilose.
INFLORESCENCES: Axillary, the peduncle variable in length and either shorter or longer than the petiole, short-pilose, angular, minutely verruculose toward the apex, more slender than most of the other species, mostly few-flowered cymes.
FLOWERS: Funnel-form, 3-4 cm long, rarely shorter, glabrous, dark pink to lavender, the centre purple, the limb obtuse, lobes mucronulate; sepals usually markedly unequal, the outer 4-10 mm long, ovate, acute, with a short mucronate tip, densely pilose with small, appressed trichomes, the margins with similar indument, the inner sepals broader, 5-12 mm long, glabrous or with an indument similar to the outer, calyces are straw-yellow, at least the inner sepals cochleate; stamens with white anthers and filaments; ovary pubescent; nectary yellow to yellow-orange.
CAPSULES: Subglobose, 5-7 mm in diameter, short-bristly pubescent, 2-celled, 4-valved.
SEEDS: 4 or less, 3-3.5 mm long, subglobose, glabrous, brown.


Habitat:

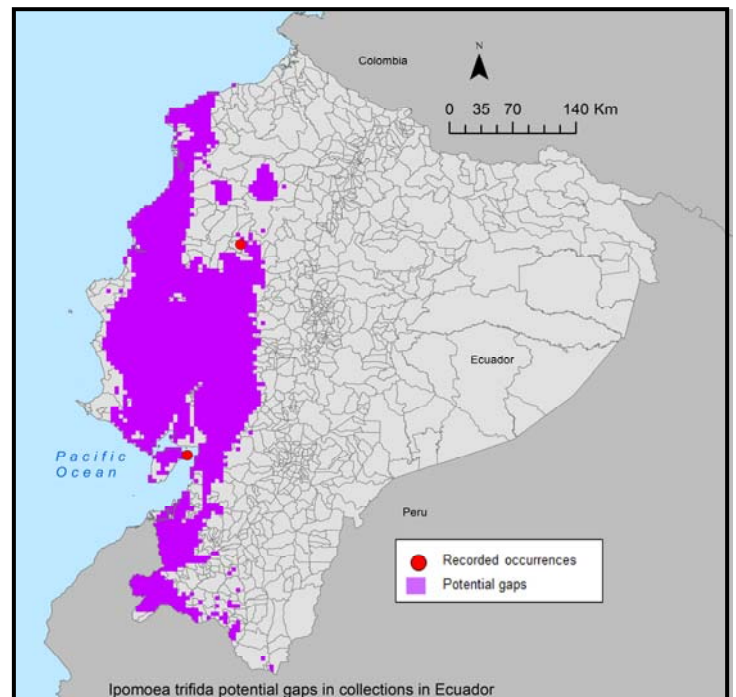
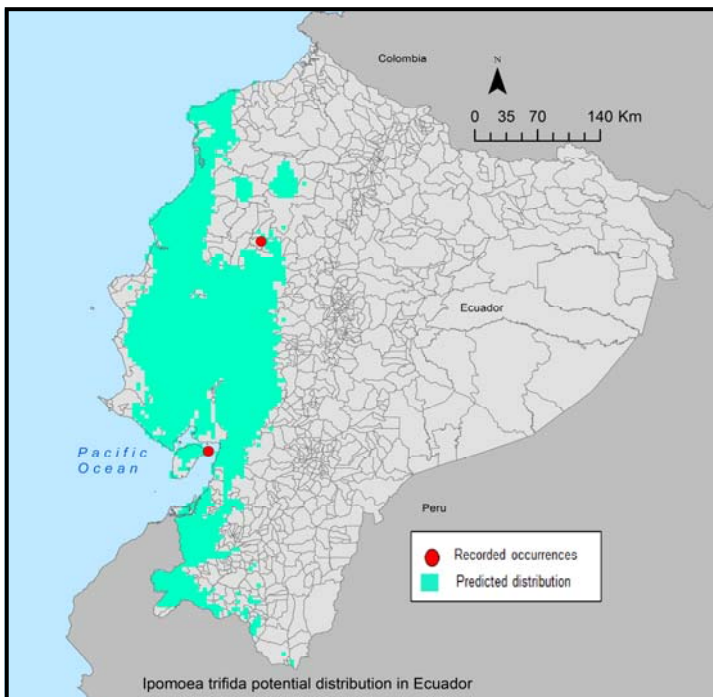
In thickets and hedges.

Distribution:

Ecuador, Costa Rica, China, Bolivia, Antioquia, Nicaragua, Panama, Paraguay.

Altitude: 0 - 300 m

<i>Ipomoea trifida</i>	May be confused with: <i>Ipomoea trichocarpa</i>
Sepals straw yellow with small trichomes. 	Sepals brown-green to red, glabrous.



References: Austin, D.F., (1978), Bulletin of the Torrey Botanical Club., The Ipomoea batatas complex,

Gene Pool Secondary relative of *Ipomoea batatas* (L.) Poir



This image has been redacted due to copyright restrictions. To request access to an unabridged version of this guide, please contact the Seed Bank Librarian at msblib@kew.org



See above
for seed
image



Over 1
m long



Jul-Feb

No data

Gene Pool Secondary relative of *Phaseolus lunatus* L.

HABIT: Loosely and rather densely pilose except the leaves above and the flowers, 2 m long or longer.
LEAVES: Stipules ovate-lanceolate, to 7 mm long; petioles 5-7 cm long; leaflets broadly ovate, the lateral obliquely truncate at base, acute, sparsely strigillose or glabrate above, about 6 cm long, 5 cm wide.
FLOWERS: Violet except for the wings, these at first lilac changing to yellow-brown; racemes long-peduncled, to 2 m long or longer, the lanceolate acuminate bracts subequaling the often geminate pedicels, these 5-7 mm long; calyx 4-4.5 mm long, sparsely puberulent, minutely ciliate on the margins, the teeth shorter than the tube, the lower ones deltoid, lanceolate-acuminate, little longer than the others, the lateral broadly deltoid, acute, the uppermost very broad, bifid; standard glabrous, 11 mm long, basally reflexed, auricled, the wings nearly 15 mm long; keel enlarged apically with the style and sparsely hirsute, spiraled 1.5 times; vexillar stamen much thickened basally; ovules 3-4.
PODS: Lightly falcate, villous, 5 cm long, 8-9 mm broad.
SEEDS: Unknown

Habitat:

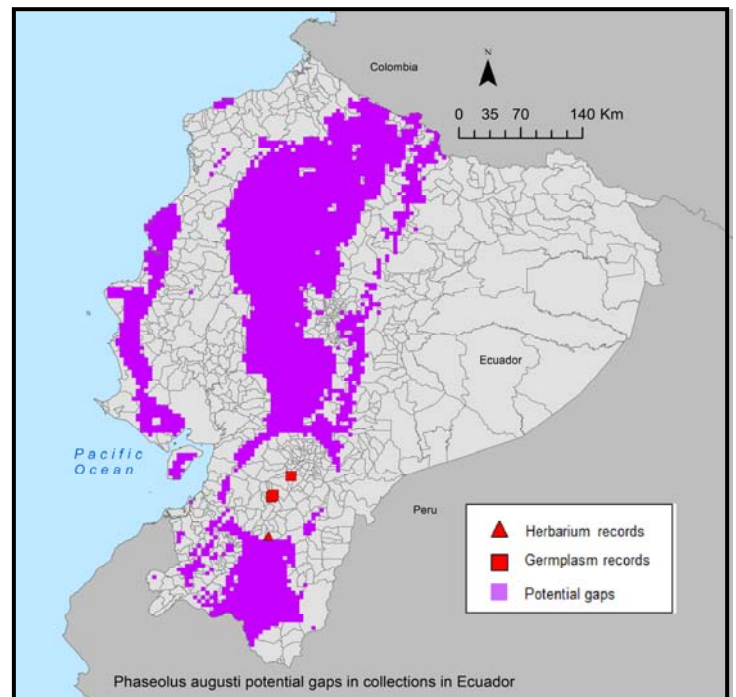
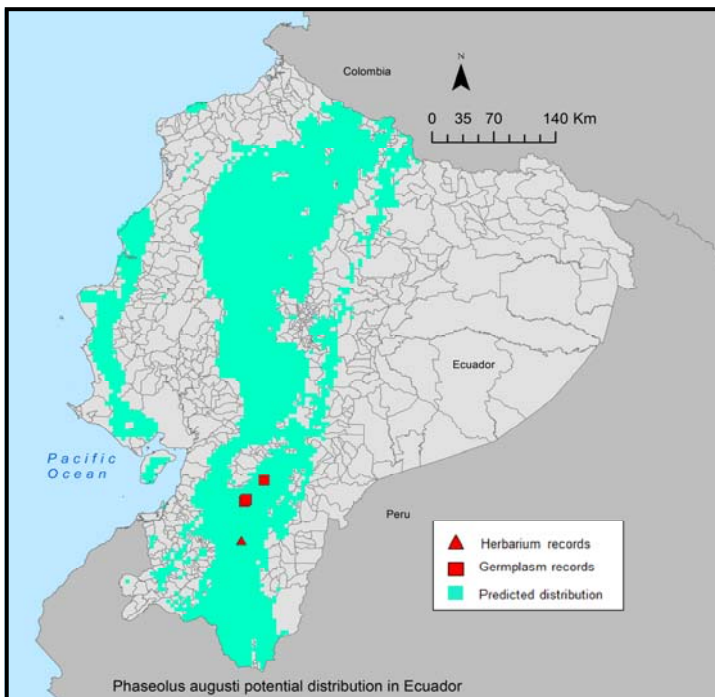
Rocky slopes, forest, dry valleys.

Distribution:

Peru, Ecuador, Argentina, Bolivia.

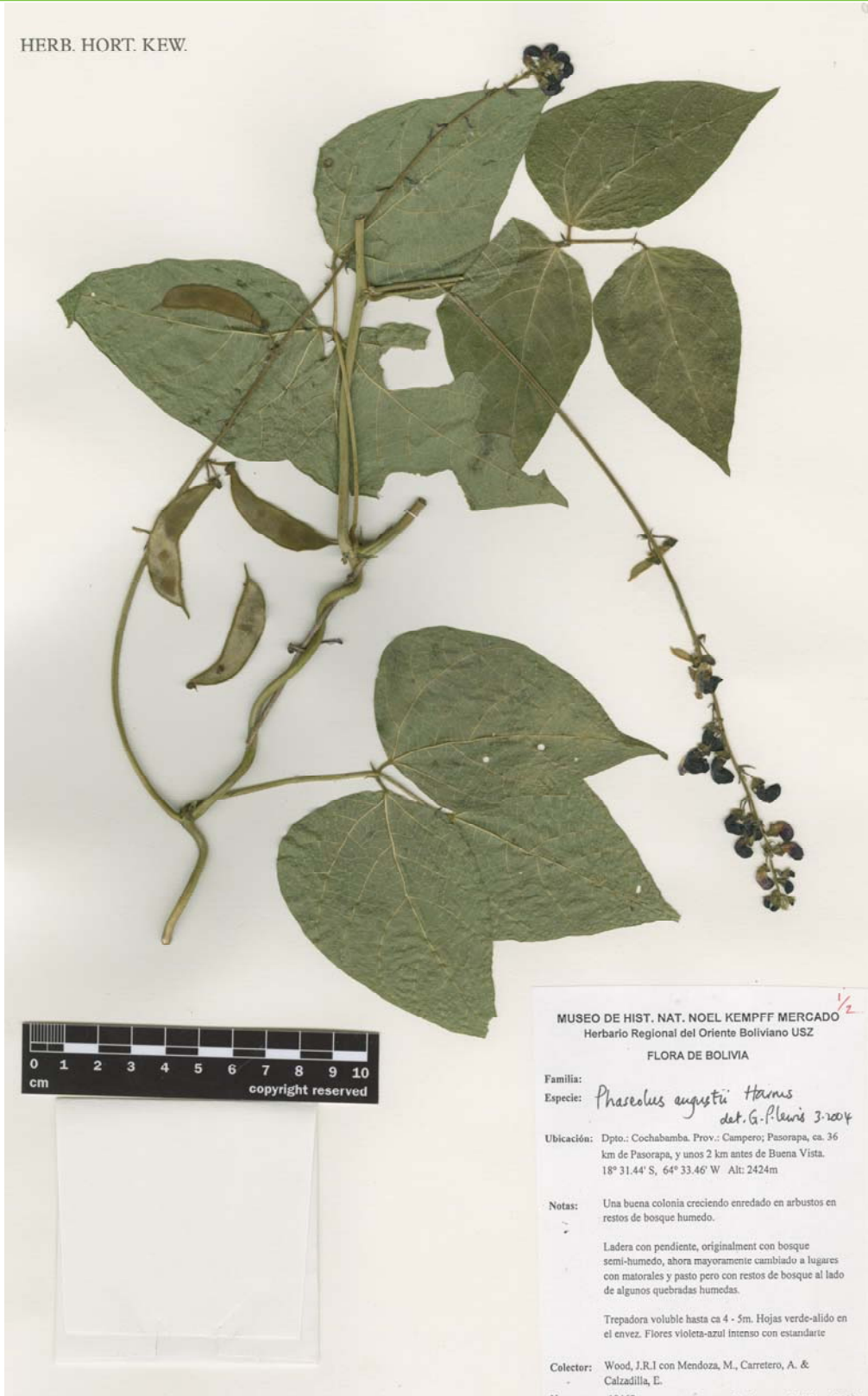
Altitude: 1200 - 3000 m

<i>Phaseolus augusti</i>	May be confused with:



References:

Gene Pool Secondary relative of *Phaseolus lunatus* L.



RBG Kew

Over 2 m

LC PRELIM

Apr-May

Apr-May

HABIT: Herbaceous spreading vine to ca.3 m long, young stems covered with hairs.

LEAVES: Alternate, odd-pinnately compound; leaflets 3, ovate, ca. 3-5.5 cm long.

FLOWERS: In racemes to ca. 30 cm long, corolla purplish with some white, composed of one large standard petal, 2 lateral wing petals, and 2 lower keel petals that are somewhat fused, the latter spiraled, flower ca. 1 cm long excluding the spiraled keel; stamens 10, 9 of these fused into a tube, the other free.

FRUIT: Oblong, 2.5-3 cm long, 6-7 mm wide.

SEEDS: 2-4 per pod.



Habitat:

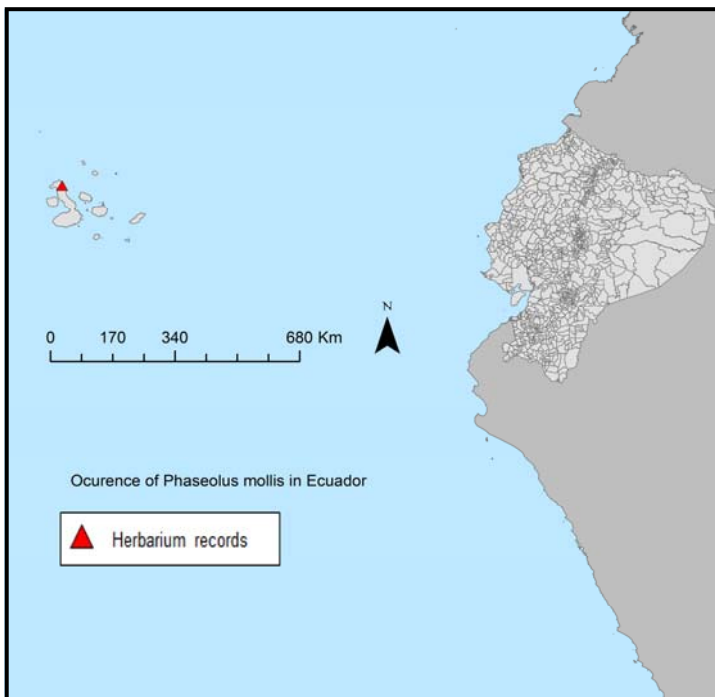
Arid lowlands and moist uplands.

Distribution:

Endemic to the Galapagos Islands: Fernandina, Isabela, Pinta, Santa Cruz.

Altitude: 1200 m

<i>Phaseolus mollis</i>	May be confused with: <i>Phaseolus adenanthus</i>
Fruits 25-30 mm x 6-7 mm with 2-4 seeds; flowers 1 cm long.	Larger fruit: 7-12 cm long by 8-10 mm wide; larger flowers (2-3 cm long) that are pink or purplish to white; fruits are many seeded.
 2 - 4 seed	 many seeded



All populations
priority for collection

References: McMullen, C.K. 1999 Flowering Plants of the Galapagos p314



No seed
image
available



3 m



No Data

No Data

Gene Pool Secondary relative of *Oryza glaberrima* Steud. & *Oryza sativa* L.

HABIT: Perennial. Rhizomes short. Culms erect; 100-300 cm long. Culm-nodes glabrous. Leaf-sheaths 22-42 cm long, smooth. Ligule lacking membrane, 1-7 mm long; obtuse. Leaf-blades lanceolate; 25-72 cm long; 10-40 mm wide.

FERTILE SPIKELETS: Spikelets comprising 2 basal sterile florets; 1 fertile florets; without rhachilla extension. Spikelets oblong; laterally compressed; 5-9 mm long; 2.5-2.8 mm wide; falling entire. Spikelet callus glabrous; base truncate.

GLUMES: Both absent or obscure.

FLORETS: Basal sterile florets similar; barren; without significant palea. Lemma of lower sterile floret linear; 2.5-4.5 mm long; 0.5 length of spikelet; 1 -veined; without lateral veins. Lemma of upper sterile floret linear; 2.5-4.5 mm long; 1 length of lower sterile floret. Fertile lemma oblong; laterally compressed; 5-9 mm long; coriaceous; keeled; 5 -veined. Lemma midvein spinulose. Lemma surface granulate. Lemma margins interlocking with palea margins. Lemma apex rostrate; 1 -awned. Principal lemma awn 8-10 mm long overall; limb scabrous. Palea elliptic; coriaceous; 3 -veined; 1-keeled. Palea keels spinulose. Palea surface granular. Palea apex acute.

FLOWER: Lodicules 2; membranous. Anthers 6, 3.5-4 mm long.

FRUIT: Caryopsis with adherent pericarp; oblong; 6-6.5 mm long. Disseminule comprising a floret.

Habitat:

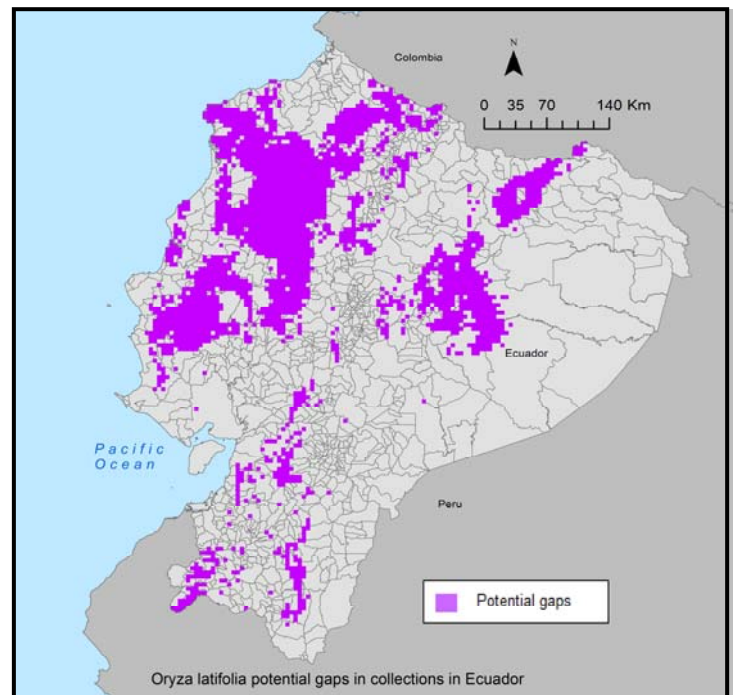
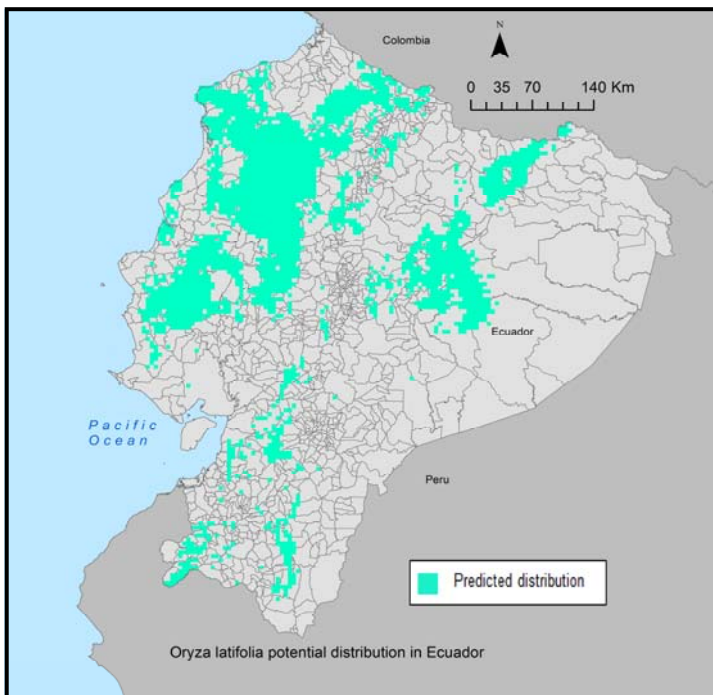
Low forest, rainforest, secondary growth forest, open woodland, undulating savanna, pasture, cultivated fields, open swamp. In or near water.

Distribution:

North America: Mexico. South America: Mesoamericana, Caribbean, northern South America, western South America, Brazil, and southern South America.

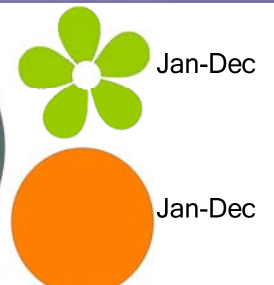
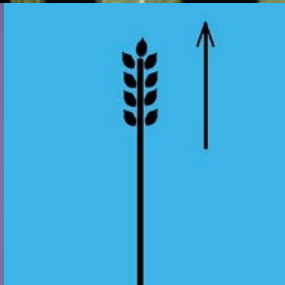
Altitude: 0 - 700 m

<i>Oryza latifolia</i>	May be confused with: <i>Oryza sativa</i>
Coarse growth, wide sharply-scabrous leaves, 10-40 mm wide, short ligule, form of branching and narrower spikelets, 5-9 mm long; 2.5-2.8 mm wide.	Leaf-blades 12-65 cm long; 4-18 mm wide. Spikelets 8-11 mm long; 2.5-3.5 mm wide.



References: GrassBase - The Online World Grass Flora; Nanda, J.S., Sharma, S.D., (2003) Monograph on Genus Oryza; Vaughan, D.A., (1994) The Wild Relatives of Rice.

Gene Pool Secondary relative of *Oryza glaberrima* Steud. & *Oryza sativa* L.



HABIT: Herbs strongly rosette-forming. Stems 3-5 mm in diameter at base of plant, light green, unwinged, densely pubescent with whitish hairs 3-6 mm long.

LEAVES: Odd-pinnate, the blades 5-18.5 x 1.5-6.5 cm, green, membranous to chartaceous, densely pubescent with whitish pilose hairs adaxially and abaxially, the hairs longer on the veins and rachis, lateral leaflet pairs 2-5, decreasing in size toward the base, with the terminal leaflet larger than the laterals; petioles 1-4 cm, pubescent as the stems.

INFLORESCENCES: 3-7 cm, distinct in this species, typically a monochasium with an "extra" flower at its base, with 3-7 flowers; peduncle highly contracted and often single-flowered, 3-4 mm long; pedicels 15-30 mm long in flower and fruit; pedicels 15-30 mm long in flower and fruit, spaced 1-10 mm apart, articulated in the distal third.

FLOWERS: Homostylous, 5-merous. Calyx 5-6 mm long, the tube 1-2 mm, the lobes 1-4 mm, acute to acuminate to lanceolate; corolla 1.5-1.8 cm in diameter, rotate, light blue to white or more rarely light to dark violet, the tube 1-2 mm long

FRUITS: Fruit a globose berry, 1-1.5 cm in diameter, light green, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

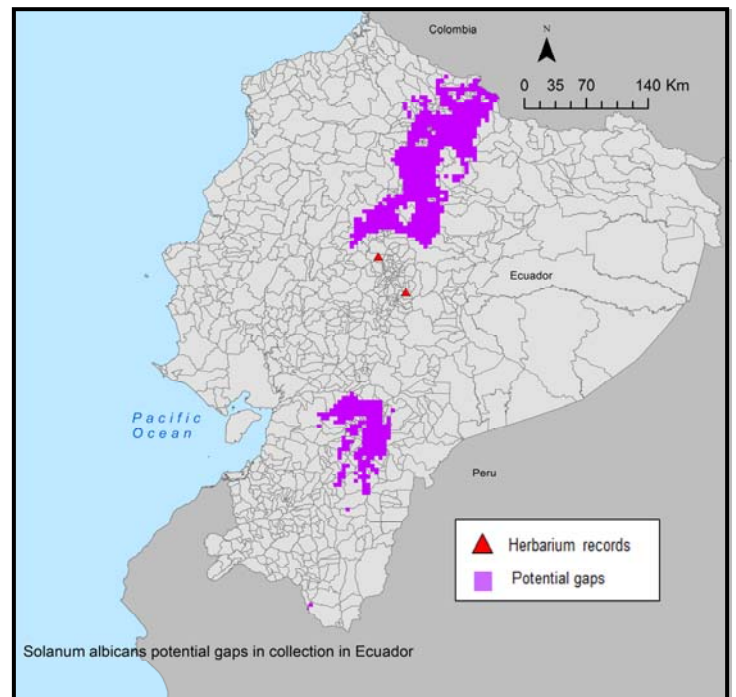
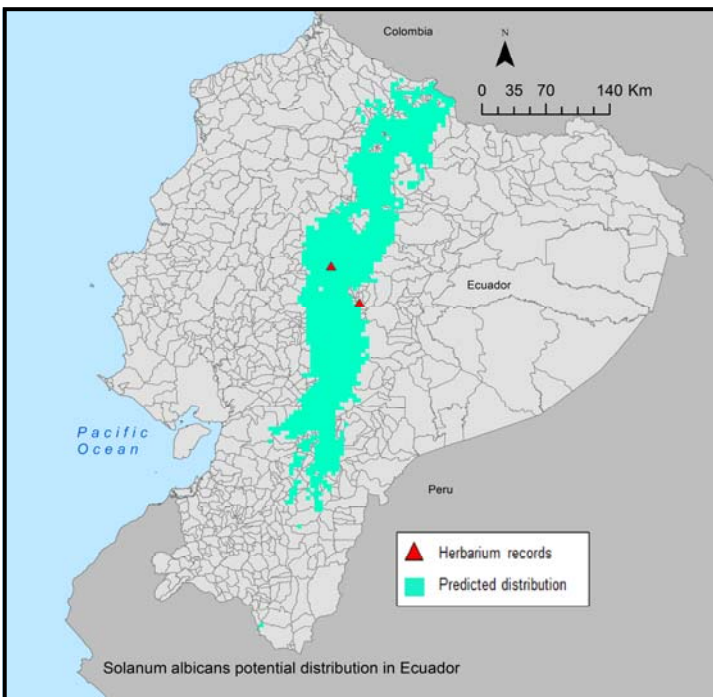
Open grasslands, non gently sloping hillsides. Also on rocky mountain slopes.

Distribution:

Peru, Ecuador.

Altitude: 3340 - 4800 m

<i>Solanum albicans</i>	May be confused with: <i>Solanum acaule</i>
Pedicels densely pilose. More clearly articulated, silvery-white pubescence.	Pedicels, glabrous, articulation absent or inconspicuous.



References: <http://solanaceaesource.org/solanaceae/solanum-albicans>

SOLANACEAE

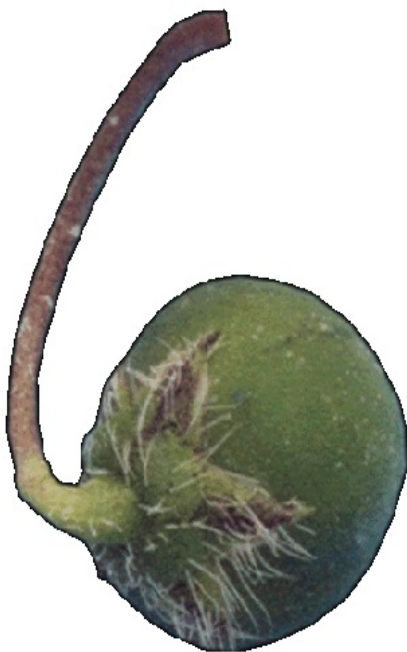
Gene Pool Secondary relative of *Solanum tuberosum* L.

Solanum albicans (Ochoa) Ochoa

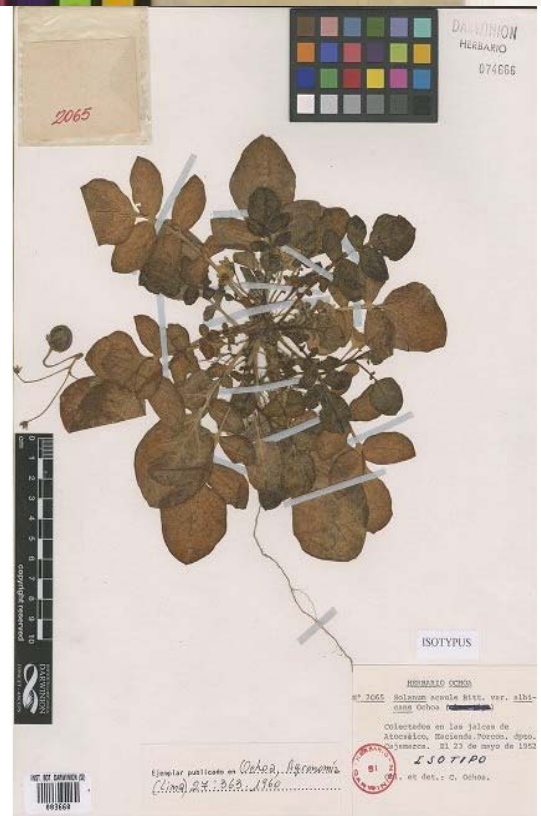
Pishgo Papa



Credit: A.Salas



Credit: A.Salas



Jstor



10-30 cm



Jan-May

Jan-May

Gene Pool Secondary relative of *Solanum tuberosum* L.

HABIT: Herbs 0.4-1 m tall, erect. Stems 3-5 mm in diameter at base of plant, winged or unwinged, the wings 0-0.21 mm wide, glabrous.

LEAVES: Odd-pinnate, the blades 10.5-26 x 6.6-14 cm, light green abaxially and dark green adaxially, coriaceous and shiny, glabrous adaxially, glabrous to glabrescent with very short hairs abaxially; terminal leaflet 3.7-6.5 x 0.9-2 cm, elliptic, the apex acute to acuminate, the base cuneate; interjected leaflets 14-85, sessile to short petiolulate, ovate to orbicular; petioles 1-5.5 cm, glabrous. Pseudostipules 3-5 mm long, glabrous to subglabrous.

INFLORESCENCES: 6-10 cm, 22-86 flowers, with all flowers apparently perfect, the axes glabrous; peduncle 0.5-10.4 cm long; pedicels 10-24 mm long in flower and fruit, spaced 5-10 mm apart, articulated high in the distal half.

FLOWERS: Homostylous; Calyx 4-9 mm long, lobes 2-5 mm, ovate to lanceolate, glabrous; corolla 2-3.7 cm in diameter, pentagonal to rotate-pentagonal, white with a lilac streak on the back of the lobes, corolla edges flat, slightly folded dorsally, glabrous abaxially and adaxially.

FRUITS: Fruit an ovoid berry, 1.1-1.4 cm in diameter, medium green, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

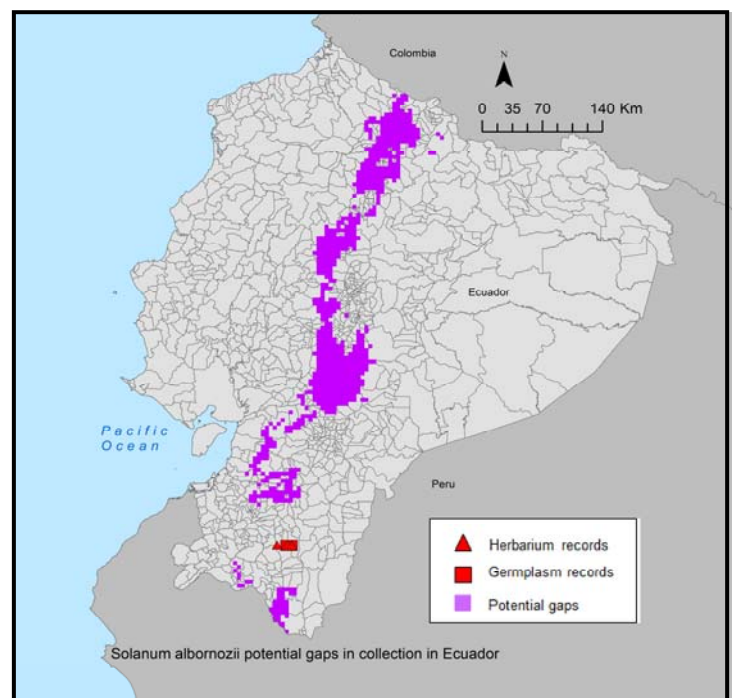
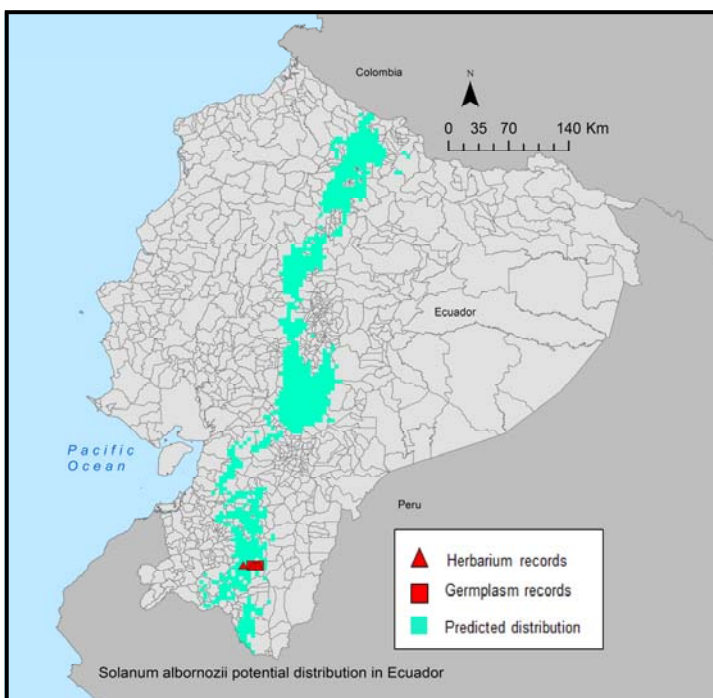
Among bushes on slopes.

Distribution:

Ecuador (Provs. Loja and Azuay).

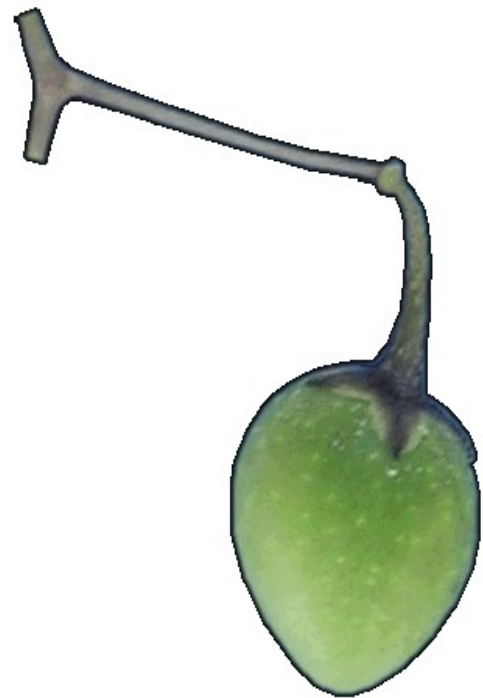
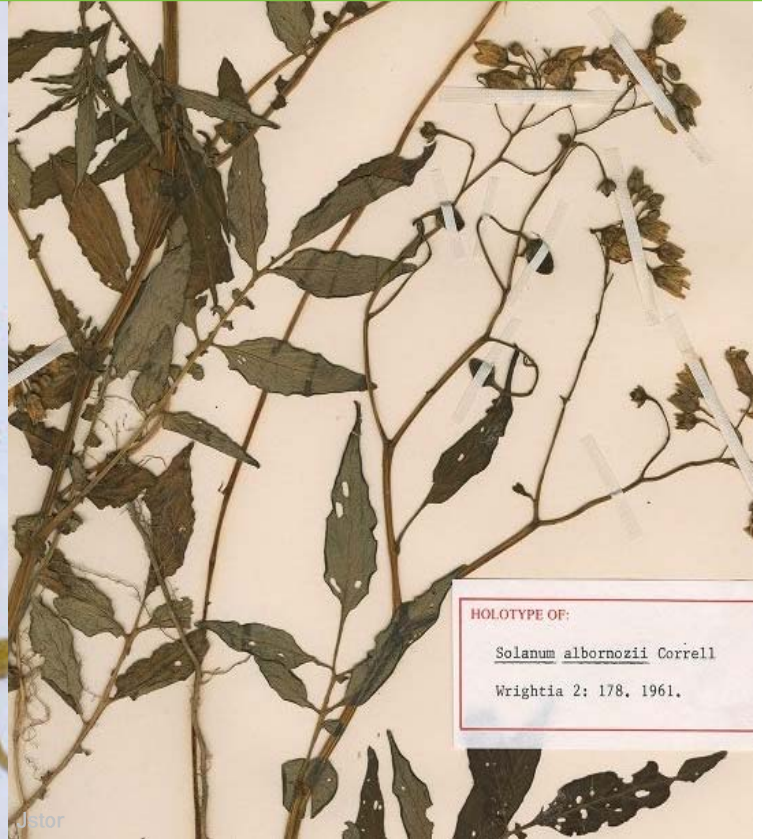
Altitude: 2350 - 3400 m

<i>Solanum albornozii</i>	May be confused with: <i>Solanum augustii</i>
Ovoid berries.	Globose berries.



References: <http://solanaceaesource.org/taxonomy/term/105474/descriptions>

Gene Pool Secondary relative of *Solanum tuberosum* L.



Credit: A.Salas

No seed image available



Credit: A.Salas



Mar-Jul

Mar-Jul

Gene Pool Secondary relative of *Solanum tuberosum* L.

HABIT: Herbs 0.06-0.86 m tall, generally erect but sometimes a rosette. Stems 1-9 mm in diameter at base of plant, generally unwinged, glabrous to glabrescent.

LEAVES: Odd-pinnate, blades 3.2-22 x 2.2-13.3 cm, dark green adaxially, light green abaxially, coriaceous, glabrescent adaxially and abaxially, with very short hairs; terminal leaflet 2-8.5 x 1.2-5.5 cm, ovate to elliptic, the apex acute to acuminate, the base generally attenuate; petioles 0.4-3 cm, glabrescent with short hairs. Pseudostipules 1-13 mm long, subglabrous to glabrescent.

INFLORESCENCES: 3.2-23 cm, 2-43 flowers, with all flowers apparently perfect, the axes glabrous to glabrescent with long white hairs; peduncle 0.38-11.3 cm long; pedicels 7-47 mm long in flower and fruit.

FLOWERS: Homostylous; Calyx 2-10 mm long, the lobes 0.3-11 mm, ovate to lanceolate, with linear acumens 0.3-6 mm long, glabrous to glabrescent with white short hairs; corolla 2-4.9 cm in diameter, pentagonal to rotate, lilac to blue, the corolla edges flat, not folded dorsally, glabrous adaxially and abaxially

FRUITS: A globose berry to ovoid berry, 0.5-2.3 cm wide, 0.7-2.6 cm long, medium to deep green sometimes with dark green stripes when ripe, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

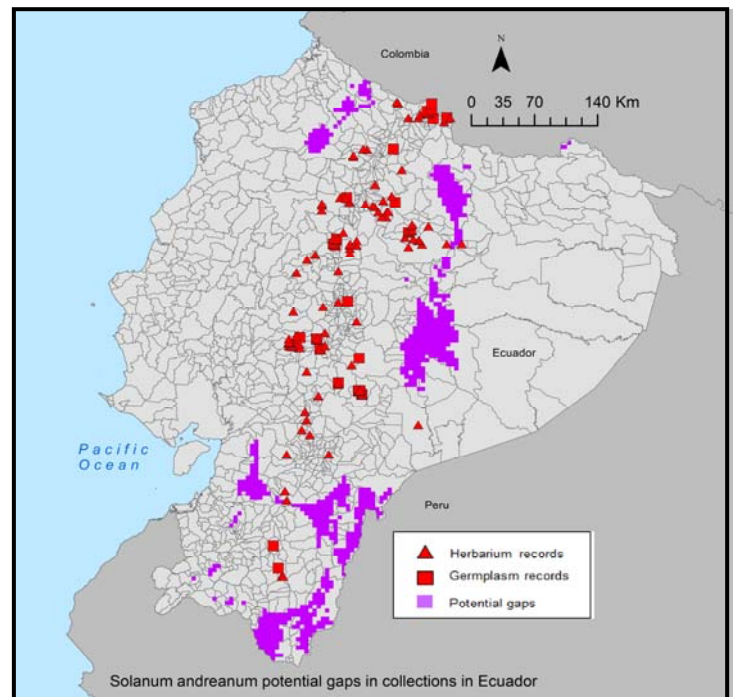
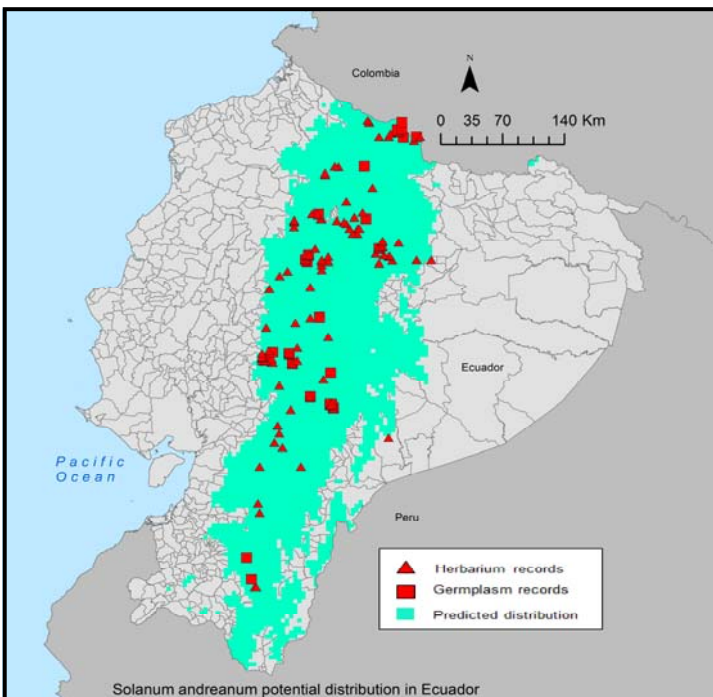
Near creeks, among herbs or shrubs.

Distribution:

Ecuador and Colombia.

Altitude: 1900 - 4000 m

<i>Solanum andreanum</i>	May be confused with: <i>Solanum olmosense</i>
Leaves without a decurrent rachis.	Leaves widely decurrent onto the rachis.

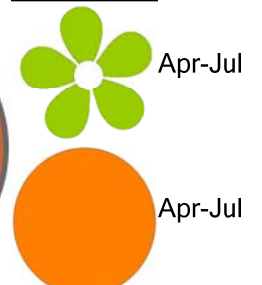
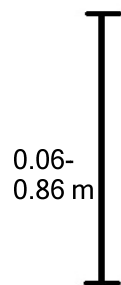


References: <http://solanaceaesource.org/taxonomy/term/105597/descriptions>

Gene Pool Secondary relative of *Solanum tuberosum* L.



Credit: A.Salas



Gene Pool Tertiary relative of *Solanum melongena* L.

HABIT: A remotely prickly (only young stems below) or smooth shrub or tree, to 10 meters tall.

LEAVES: Ovate or elliptic-ovate, entire or subrepand or rarely shallowly lobulate, acuminate, the lower solitary, the uppermost often subgeminat, 25 cm long, 12 cm wide, or smaller, short stellate pubescent, somewhat denser beneath, or sparsely stellate in age, the 4-5 primary nerves more prominent below.

INFLORESCENCE: Corymbs subdichotomous, to 1 cm long, about as wide; peduncles to 2 cm long; pedicels approximate, 6-8 mm long.

FLOWERS: Calyx 6 mm across, the segments ovate, acute; corolla purple, lanate without, in the type shorter than 1 cm, plicate at base, the segments lanceolate, acuminate, stellate-radiate; stamens half as long as the corolla.

FRUIT: Yellow

SEEDS: Unknown

Habitat:

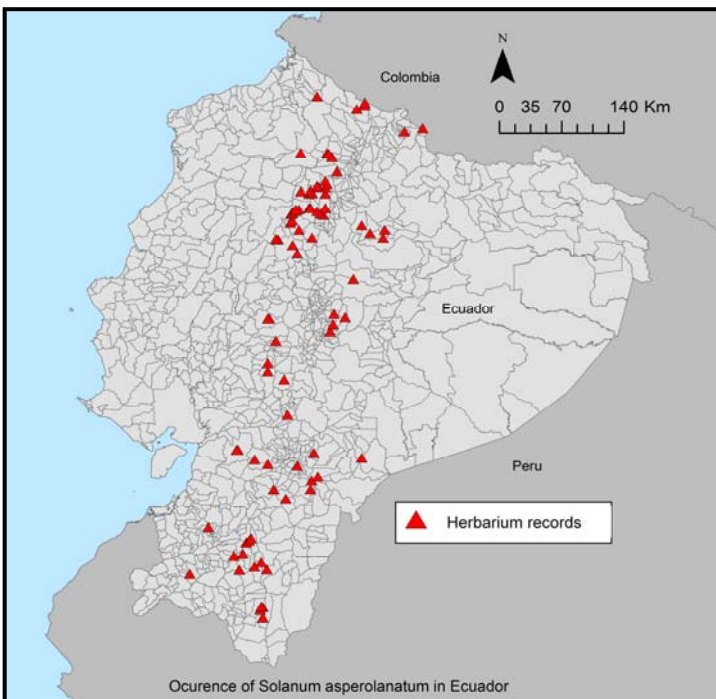
Montane Forest.

Distribution:

Peru, Bolivia, Ecuador.

Altitude: 2000 - 4000 m

<i>Solanum asperolanatum</i>	May be confused with: <i>Other Solanum species</i>



All populations
priority for collection

References:

Gene Pool Tertiary relative of *Solanum melongena* L.



No seed image available



up to 10 m



LC PRELIM



Jan-Feb

Jan-Mar

Gene Pool Secondary relative of *Solanum tuberosum* L.

HABIT: Herbs 0.6-1 m tall, erect. Stems 4-8 mm in diameter at base of plant, green to green mottled with purple, unwinged, glabrous.

LEAVES: Odd-pinnate, the blades 8.7-18.6 x 3.8-14.1 cm, dark green adaxially and abaxially, coriaceous, glabrous adaxially and abaxially; most distal lateral leaflets 1.3-7.7 x 0.9-2.7 cm, ovate to elliptic, the apex acute to acuminate, the base typically petiolulate and attenuate to rounded; petioles 1-2 cm, glabrous. Pseudostipules 6-8 mm long, glabrous to subglabrous.

INFLORESCENCES: 4.5-10.5 cm, 14-33 flowers, with all flowers apparently perfect, the axes glabrous; peduncle 3.3-6 cm long; pedicels 15-28 mm long in flower and fruit, spaced 3-5 mm apart, articulated slightly above the middle.

FLOWERS: Homostylous: Calyx 3-7 mm long, the tube 1-3 mm, the lobes 2-3 mm, usually ovate to lanceolate, with linear acumens 2-3 mm long, glabrous. Corolla 1.8-4.4 cm in diameter, pentagonal to rotate, lilac to blue with white acumens; corolla edges flat, not folded dorsally, glabrous adaxially and abaxially.

FRUIT: Globose berry, 1.2-1.8 cm in diameter, medium to deep green with dark green stripes when ripe, glabrous.

SEEDS: Ovoid, ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

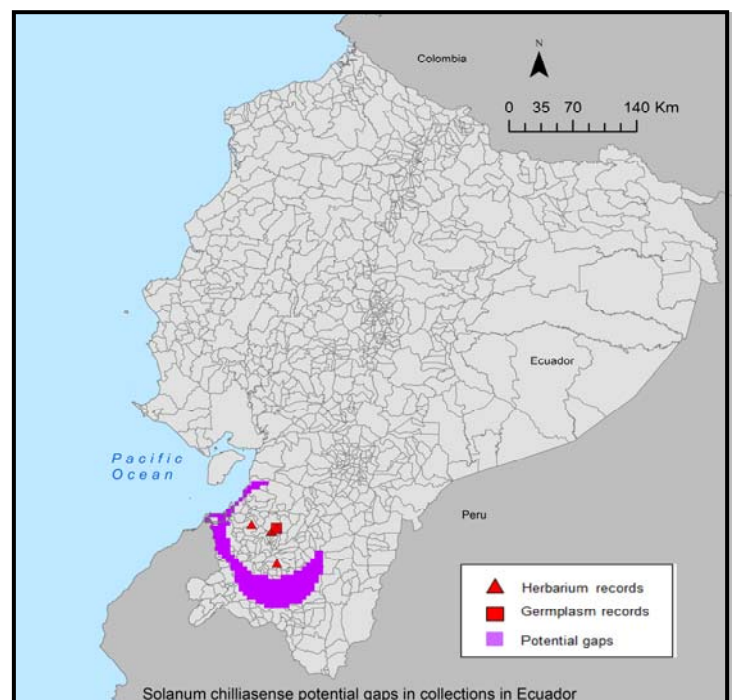
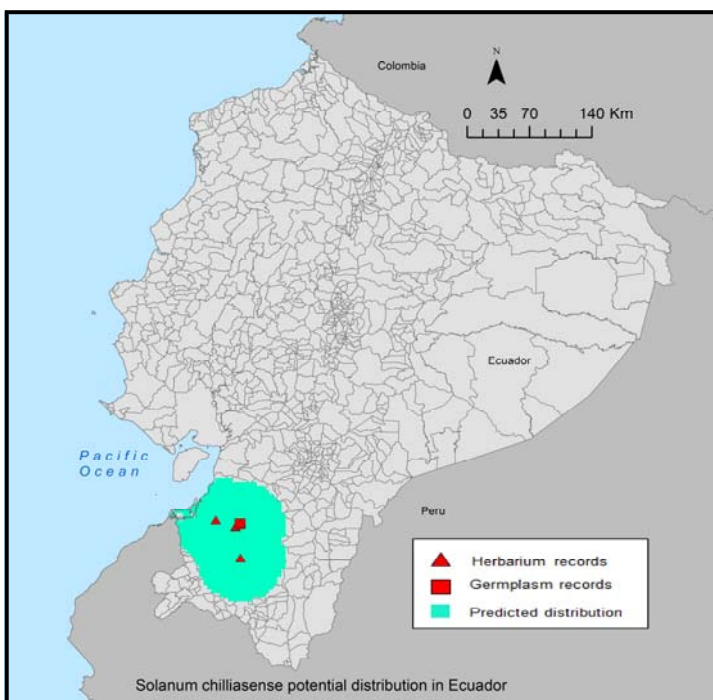
In grasslands and among bushes.

Distribution:

Southern Ecuador (Prov. El Oro).

Altitude: 3200 - 3450 m

<i>Solanum chilliasense</i>	May be confused with: <i>Solanum paucissectum</i>
Strongly acuminate leaflets and undulate leaflet margins.	Acute leaflets and straight leaflet margins.



References: <http://solanaceaesource.org/taxonomy/term/106224/descriptions>

Gene Pool Secondary relative of *Solanum tuberosum* L.



Credit: A.Salas

Credit: A.Salas

No seed image available



0.6-1 m



Apr-May

Apr-May

Gene Pool Secondary relative of *Solanum tuberosum* L.

HABIT: Herbs 0.1-0.9 m tall, erect. Stems 0.5-7 mm in diameter at base of plant, usually unwinged, completely glabrous to glabrescent.

LEAVES: Odd-pinnate, the blades 4.9-23.5 x 2.8-10.3 cm, light to deep green throughout, sometimes with some light purple coloration to completely purple abaxially, usually glabrous to glabrescent with white short hairs adaxially, glabrous to glabrescent with short hairs abaxially; most distal lateral leaflets 1.5-5.9 x 0.5-3.4 cm, ovate to elliptic, the apex acute to acuminate, the base petiolulate or sessile and attenuate to rounded, asymmetric.

INFLORESCENCES: 4-18.5 cm, terminal with a subtending axillary bud, generally in distal half of the plant; 2-38 flowers; peduncle 0.4-12.8 cm long; pedicels 10-80 mm long in flower and fruit.

FLOWERS: Homostylous; calyx 4-18 mm long, the tube 1-3 mm, the lobes 3-10 mm, ovate to lanceolate; corolla 1.8-5.2 cm in diameter, pentagonal to rotate, lilac to blue, the tube 1-2 mm long, edges flat.

FRUITS: Variable in shape, globose, ovoid to elliptic, 1-3.4 cm long and 0.9-3.1 cm wide light, medium to deep green, sometimes with deep green or purple stripes when ripe, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

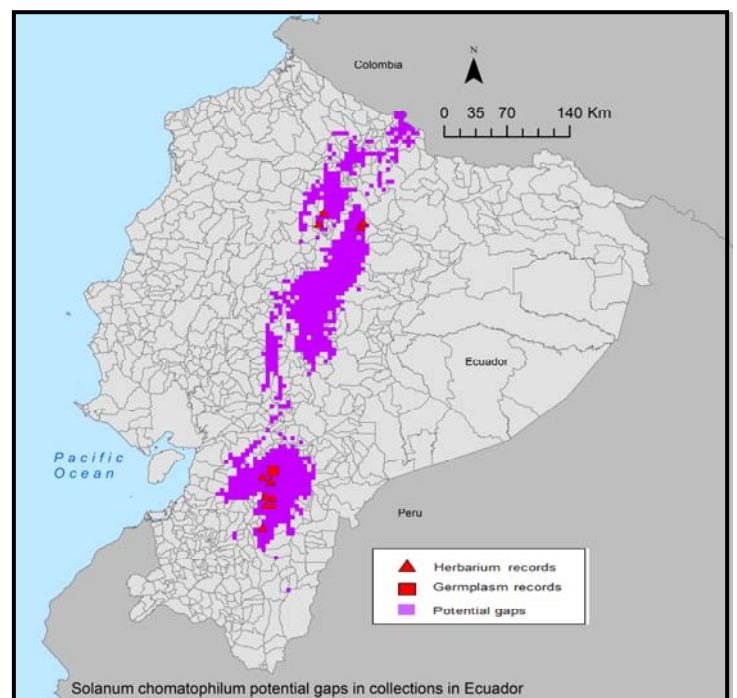
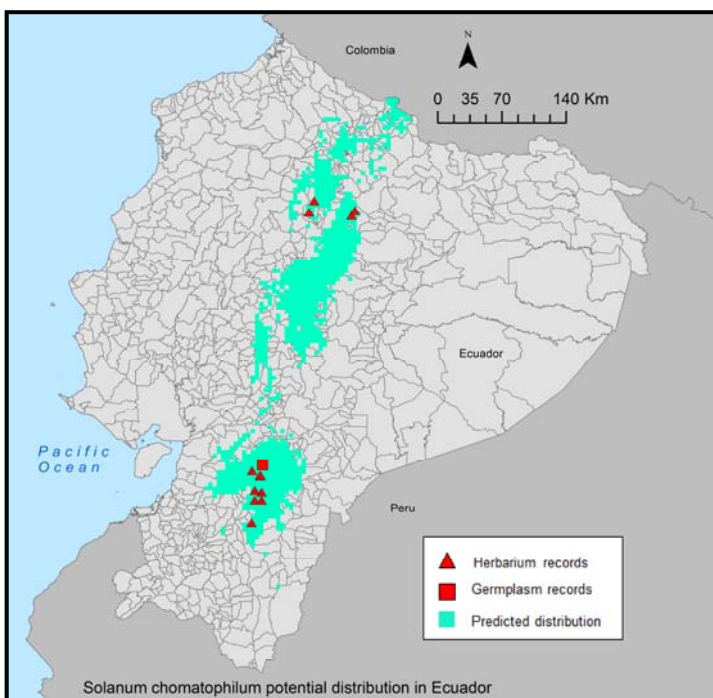
Along streamsides, on rocky or eroded slopes, poor soils or rich organic soils, on wet shrubby habitats, or in the sub-paramos, punas and grasslands, among herbs, shrubs or trees.

Distribution:

Ecuador (Provs. Azuay and Pichincha), north and central Peru (Depts. Amazonas, Ancash, Cajamarca, Huánuco, La Libertad, Lima, Junín, Pasco and San Martín).

Altitude: 1950 - 4000 m

<i>Solanum chomatophilum</i>	May be confused with: <i>Solanum albornozii</i> , <i>Solanum augustii</i>
Lilac to blue corollas.	White corolla.



References: <http://solanaceaesource.org/taxonomy/term/106250/descriptions>

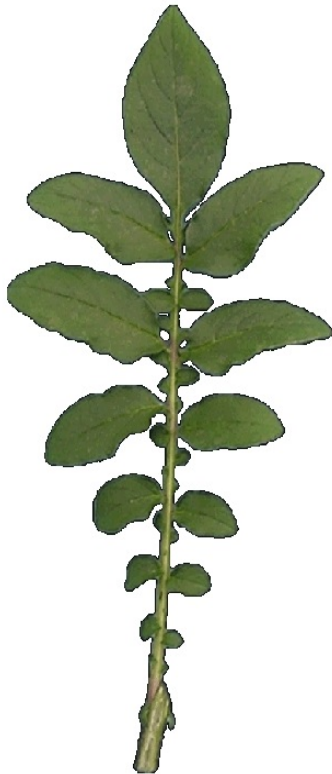
Gene Pool Secondary relative of *Solanum tuberosum* L.



Credit: A.Salas



Credit: A.Salas



Credit: A.Salas



RBG Kew

No seed image available



0.1-0.9 m

LC
PRELIM



Mar-Jun

Mar-Jun

Gene Pool Secondary relative of *Solanum tuberosum* L.

HABIT: Herbs 0.3-2.2 m tall, semierect to erect. Stems 2-13 mm in diameter at base of plant, green to green mottled with purple, unwinged or with wings to 0.8 mm wide, subglabrous to finely puberulent with whitish simple hairs.

LEAVES: Odd-pinnate, blades 6.5-52 x 3.5-22 cm, medium to dark green, membranous to chartaceous, finely to coarsely pubescent adaxially and abaxially with hairs like those of the stems; terminal leaflet 2-12.2 x 0.8-5.8 cm, ovate to elliptic, the apex acuminate, the base attenuate.

INFLORESCENCES: 6-17.5 cm; calyx 4-11 mm long, lobes 4-8 mm, long attenuate, the acumens 0.8-3.1 mm long, glabrous to subglabrous; corolla 2-4.2 cm in diameter, pentagonal to rotate, white throughout to white tinged with purple or violet to purple or violet throughout, the rays sometimes darker purple or white.

FLOWERS: Homostylous; calyx 4-11 mm long, lobes 4-8 mm, long attenuate, glabrous to subglabrous; corolla 2-4.2 cm in diameter, pentagonal to rotate, white throughout to white tinged with purple or violet to purple or violet throughout, the rays sometimes darker purple or white.

FRUITS: Conical berry, 1-2.5 cm long, 0.7-2.4 mm wide, medium to deep green when ripe, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

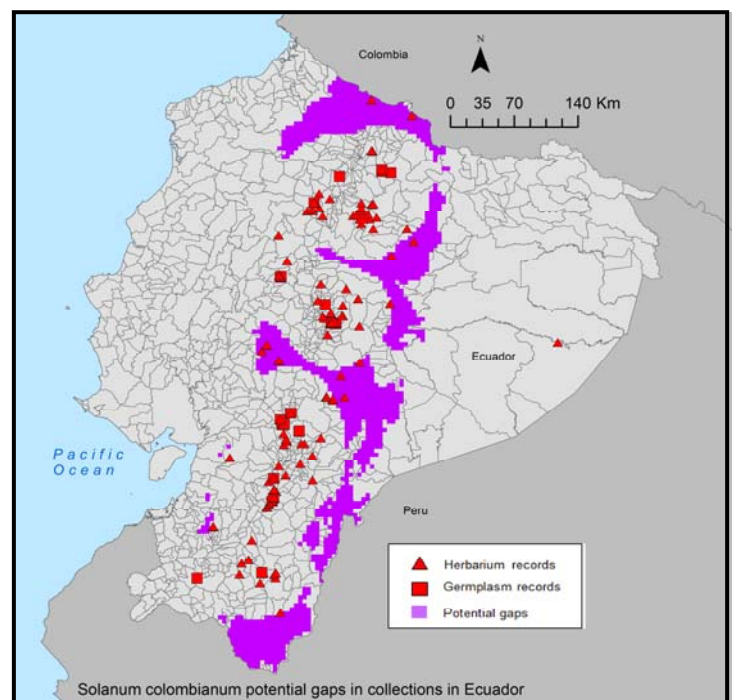
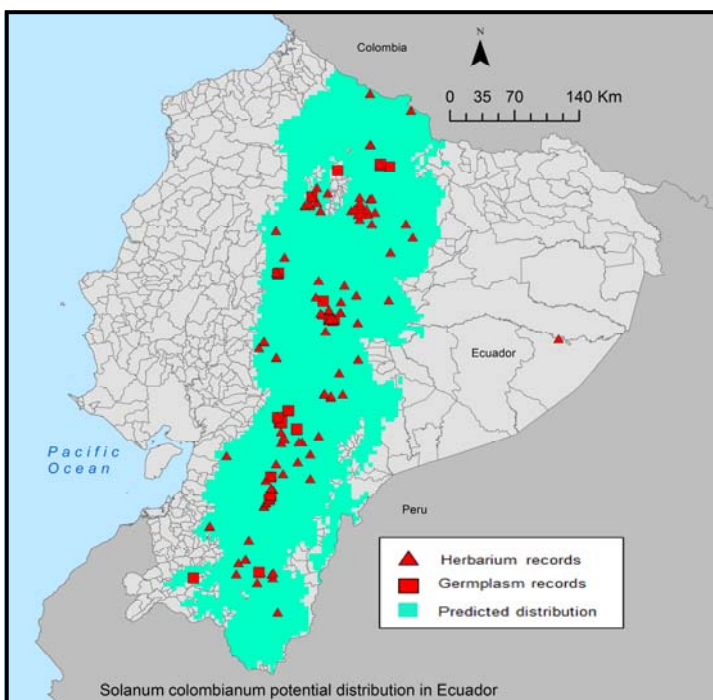
Among shrubs, often in disturbed habitats such as streamsides or roadsides or landslides, or in recently burned woods or forest clearings where populations can be extensive.

Distribution:

From western Venezuela (Distrito Federal) to northern Peru (Dept. Cajamarca)

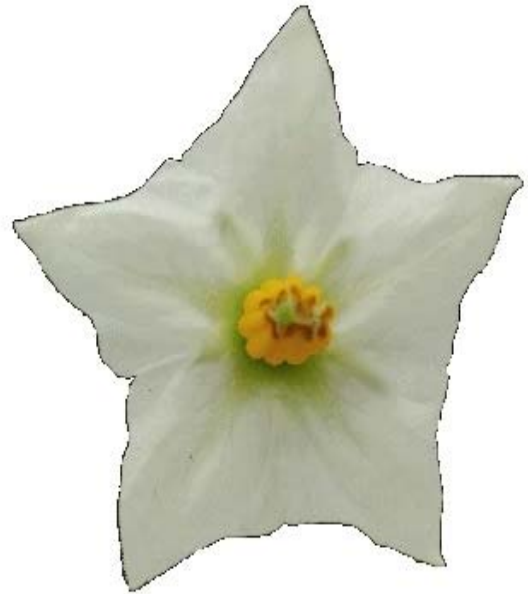
Altitude: 1800 - 3950 m

<i>Solanum colombianum</i>	May be confused with: <i>Other Solanum species</i>
Style usually less than 7.5 mm long. Leaflets mostly acute or shortly acuminate.	



References: <http://solanaceaesource.org/taxonomy/term/106338/descriptions>

Gene Pool Secondary relative of *Solanum tuberosum* L.

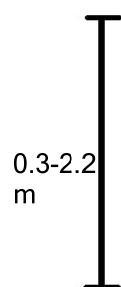


Credit: A.Salas

No seed image available



Credit: A.Salas



Jan-Dec

Jan-Dec

Secondary Genepool of *Solanum melongena* L.

HABIT: Small tree to 15 m high.

LEAVES: Leaf stalks sometimes prickly; leaves 15 x 7-30 x 22 cm, ovate to broadly elliptic, apex acute, margin entire to deeply dentate, densely pale stellate-tomentose below.

INFLORESCENCE: Up to 15 cm long.

FLOWERS: 6-7 cm diam, blue violet inside, whitish outside.

FRUIT: 4-6 cm diam. above the cup like calyx.

SEED: Unknown.

Habitat:

Along riversides and in forest gaps in wet forest.

Distribution:

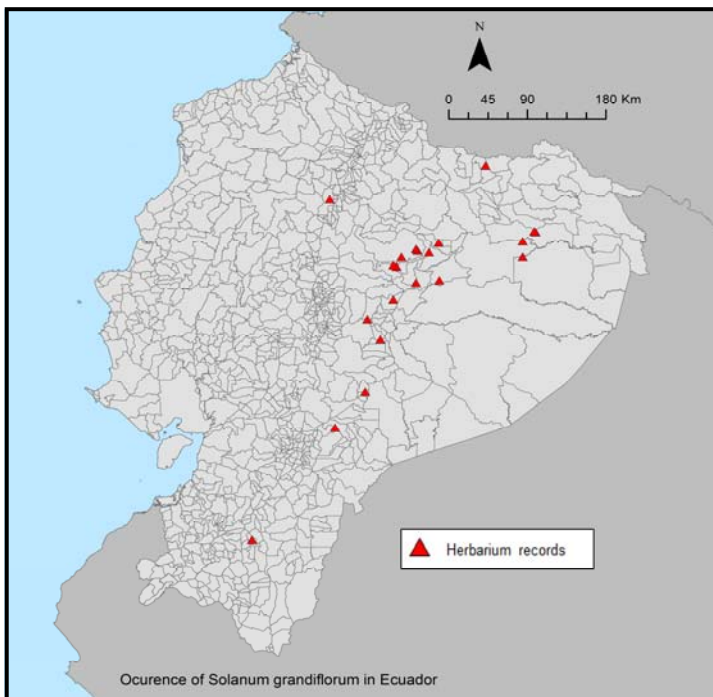
Found in Colombia, Ecuador and Peru.

Altitude: Up to 2000 m

*Solanum grandiflorum*May be confused with:
Solanum erianthum

Larger flowers: up to 7 cm in diameter and violet in colour.

Flowers less than 2 cm in diameter and white.

All populations
priority for collection

References: Pennington, T.D. et al., Illustrated Guide to the Trees of Peru, 2004, p757

Secondary Gene pool of *Solanum melongena* L.



No seed image available



15 m

LC
PRELIM



Jan-Dec

Jan-Dec

Gene Pool Tertiary relative of *Solanum tuberosum* L.

HABIT: Herbs up to 1 m tall, semi-erect. Stems 3-7 mm in diameter at base of plant, green, usually unwinged, glabrescent to pubescent with white short hairs.

LEAVES: Odd-pinnate, blades 16.2-33 x 9.7-23.4 cm, light green adaxially, dark green abaxially, coriaceous, densely pubescent with short white hairs, with finer and more dense hairs abaxially; most distal lateral leaflets 5.3-13.3 x 2.4-6.3 cm, ovate to elliptic, considerably larger than the second most distal pair, the apex acute to acuminate.

INFLORESCENCES: 4.5-11.5 cm, 4-15 flowers, with all flowers apparently perfect, the axes usually pubescent with white short hairs; peduncle 1.5-6.5 cm long; pedicels 8-15 mm long in flower and fruit; pedicels 8-15 mm long in flower and fruit, spaced 3-5 mm apart, articulated in the middle to the proximal half.

FLOWER: Homostylous; calyx 7-14 mm long, lobes 2-4 mm, ovate, densely pubescent with short white hairs; corolla 2-3 cm in diameter, substellate to pentagonal, purple to blue; corolla edges flat, not folded dorsally, usually glabrous adaxially, glabrescent with white short hairs abaxially, the margins of the corolla acumens densely pubescent with white short hairs.

FRUITS: Berries unknown.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

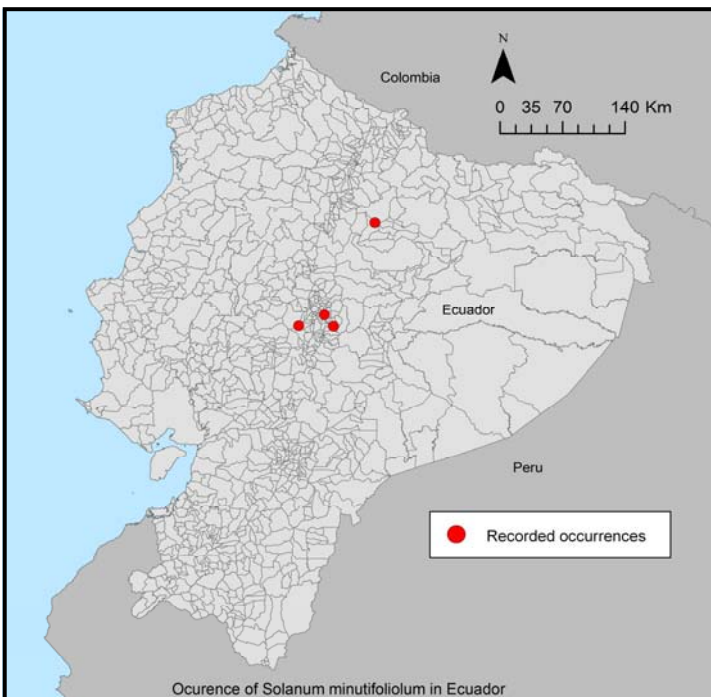
Forests and mountains.

Distribution:

Ecuador (Napó south to Cañar).

Altitude: 2200 - 3400 m

<i>Solanum minutifoliolum</i>	May be confused with: <i>Solanum cajamarquense</i>
Purple to blue corollas. Leaflets with essentially entire margins.	White corollas. Leaflets with conspicuously undulate-crenulate margins.



All populations
priority for collection

References: <http://solanaceaesource.org/taxonomy/term/108272/descriptions>; D.S. Correll, (1962) The Potato and its Wild Relatives

Gene Pool Tertiary relative of *Solanum tuberosum* L.



Jstor

No seed image available



up to 1 m



Dec-Feb

Dec-Feb

HABIT: Herbs 0.4-1.5 m tall, erect. Stems 0.3-7 cm in diameter at base of plant, purple to purple and green mottled, winged, glabrous.

LEAVES: Odd-pinnate, the blades 9.9-33 x 6.5-18.6 cm, dark green adaxially, light green to purple abaxially, coriaceous, glabrous adaxially and abaxially; terminal leaflet 5.5-9.9 x 1.8-4.5 cm, ovate to elliptic, the apex strongly acuminate, the base cuneate and decurrent onto the rachis; petioles 0.5-4 cm, glabrous. Pseudostipules 4-12 mm long, glabrous.

INFLORESCENCES: 5-13.5 cm, with 8-16 flowers, all flowers apparently perfect, the axes glabrous to glabrescent with white medium hairs; peduncle 2.1-7.1 cm long; pedicels 8-23 mm long in flower and fruit, spaced 3-5 mm apart, articulated high in the distal half.

FLOWERS: Homostylous; calyx 4-7 mm long, the tube 2-4 mm, the lobes 2-3 mm, usually ovate to lanceolate, with linear acumens 1-2 mm long, glabrous; corolla 1.5-2.5 cm in diameter, stellate, white, the tube 1-2 mm long, the acumens inconspicuous, the corolla edges flat, not folded dorsally, glabrous adaxially and abaxially.

FRUITS: Ovate to pyriform berry, 1.5-2 cm long but width unknown, green throughout but sometimes with tiny white dots, glabrous.

SEEDS: Ovoid and ca. 2 mm long, whitish to greenish in fresh condition and drying brownish.

Habitat:

Amongst bushes in mist rain forests, with understory of herbaceous plants.

Distribution:

Ecuador (Loja), and Peru (Lambayeque).

Altitude: 1200 - 2650 m

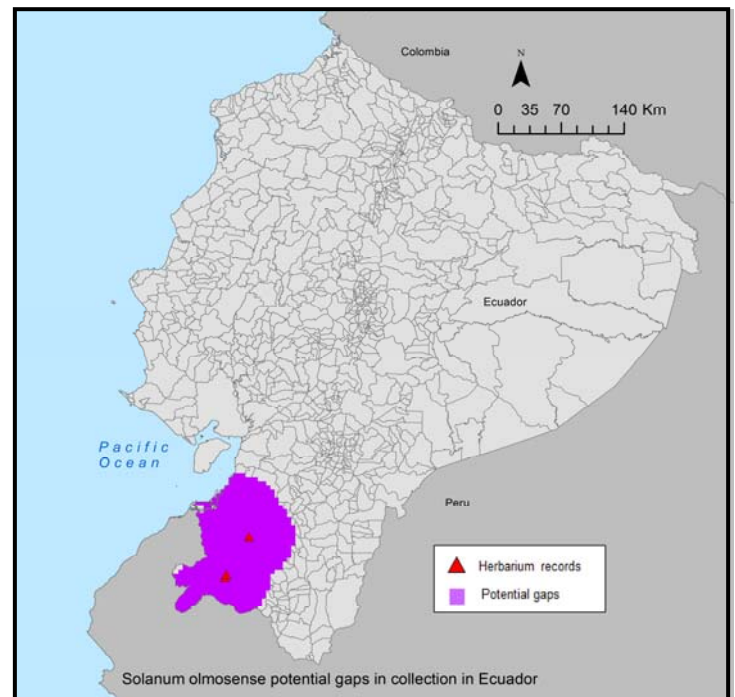
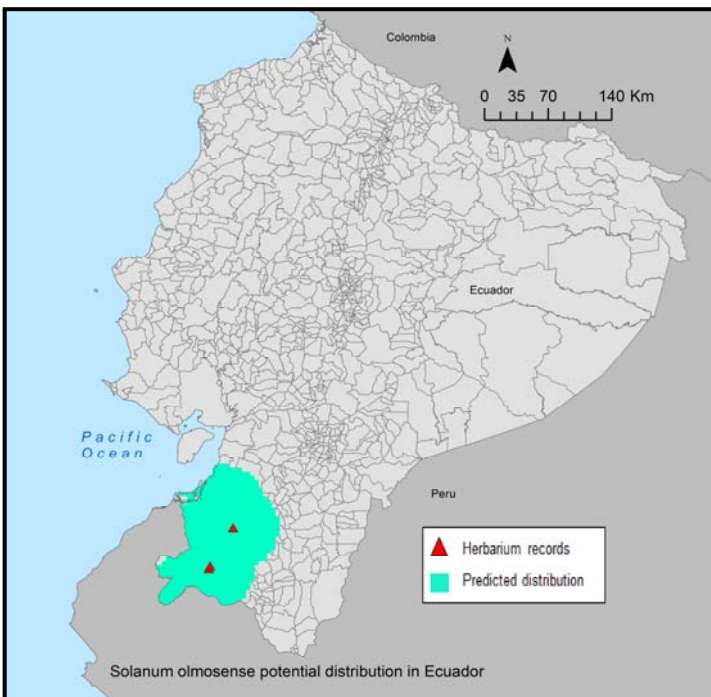
Solanum olmosense

May be confused with:
Solanum raquialatum

Stellate corollas.



Rotate corollas.



References: <http://solanaceaesource.org/taxonomy/term/108687/descriptions>



Credit: A.Salas

RBG Kew

No seed image available



0.4-1.5 m

LC PRELIM



Mar-May



Mar-May

Gene Pool Tertiary relative of *Solanum melongena* L.

HABIT: Shrubs to 3 m, many-branched from the base, armed or unarmed. Young stems terete, pubescent with a mixture of short and long stalked porrect trichomes to 0.5 mm.

LEAVES: Simple, (5.5-)9-17 cm long, (4-)5-12 cm wide, ca. 1.5 times as long as wide, elliptic to ovate; adaxial surfaces evenly and sparsely to densely pubescent with sessile porrect stellate trichomes, abaxial surfaces densely pubescent with short to long-stalked stellate trichomes to 0.5 mm long, the stalks multiseriate; apex acute to acuminate; petioles 1.5-4 cm long, densely stellate-pubescent.

INFLORESCENCES: 2-6 cm long, 15-20 mm diam., 1-4 times branched, with more than 50 flowers, peduncle 0.5-2 cm long; pedicels 1-1.2 cm long.

FLOWERS: White, 5-numerous, all perfect. Calyx 4-6 mm long, sparsely to densely stellate-pubescent and glandular, the lobes 3-4 mm long, the caudate tip ca. 1 mm long. Corolla 1.5-2 cm in diameter, stellate, lobed 1/2 to 2/3 of the way to the base, the lobes 7-9 mm long, 4-5 mm wide.

FRUIT: A globose berry, 5-40+ per infructescence, 1-1.3 cm in diameter, pale grayish green.

SEEDS: Up to 100 per berry, 2.5-3 mm long, 2-2.5 mm wide, flattened reniform, pale yellowish tan, the surfaces minutely pitted to smooth.

Habitat:

Among grasses, cacti, tropical deciduous forests, scrub and oak forests, pine forests, often in shallow or dry rocky soil, steep rocky slopes, among piles of stones or along fence rows, railroad tracks, sometimes in cultivated fields.

Altitude: 1870 - 3050 m

Distribution:

Widespread throughout central Mexico (southern Jalisco to Querétaro and Veracruz), south to southeastern and south-central Guatemala, to southern Honduras.

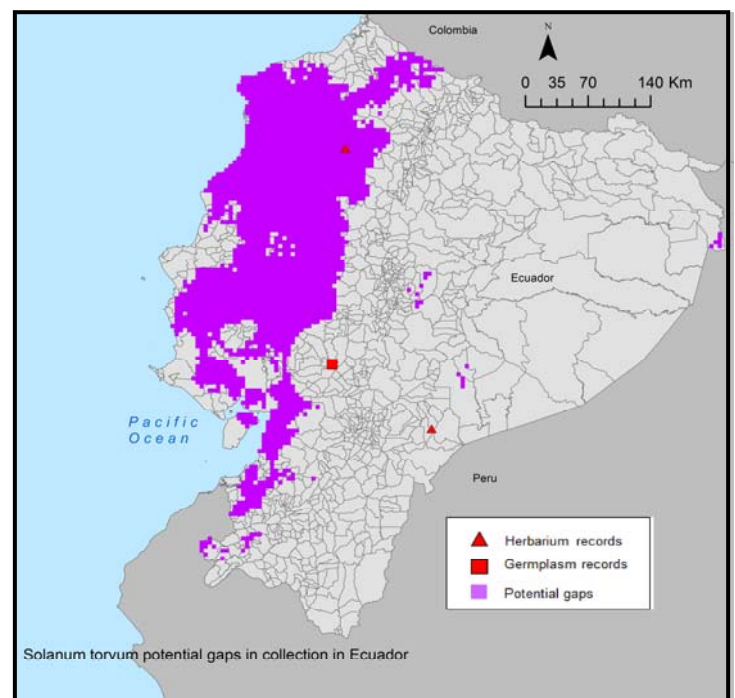
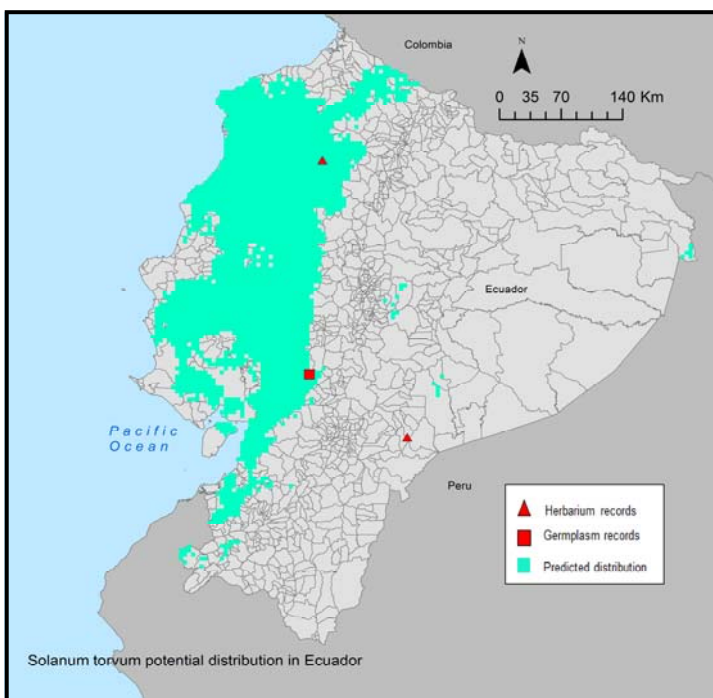
Solanum torvum

Fruit green at maturity, inflorescences with small simple, gland-tipped trichomes. Flowers 15-20mm



May be confused with:
Solanum anguivi

Red fruit and smaller flowers, 8-15mm diam.



References: <http://solanaceaesource.org/taxonomy/term/105995/descriptions>

Gene Pool Tertiary relative of *Solanum melongena* L.



Credit: Peter B. Phillipson



Credit: Sandy Knapp



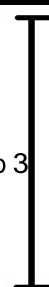
Barthelat/MNHNP/Paris/JSTOR

Steve Hurst @ USDA-NRCS PLANTS Database

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Up to 3 m



Jan-Dec

Jan-Dec

Appendix - Synonyms

Taxon		Synonyms
<i>Ipomoea ramosissima</i> (Poir.) Choisy	1	<i>Convolvulus ramosissimus</i> Poir.; <i>Ipomoea dichotoma</i> var. <i>trilobata</i> Meisn.; <i>Ipomoea ebracteata</i> (Poir.) Choisy; <i>Ipomoea perplexa</i> L.O. Williams; <i>Ipomoea quesadana</i> Standl.; <i>Ipomoea ramosissima</i> f. <i>rosea</i> (Hallier) O'Donell; <i>Ipomoea ramosissima</i> var. <i>rosea</i> Hallier
<i>Ipomoea tiliacea</i> (Willdenow) Choisy in D.C.	2	<i>Convolvulus fastigiatus</i> Roxb.; <i>Ipomoea fastigiata</i> (Roxb.) Sweet; <i>Convolvulus tiliaceus</i> Willd.
<i>Ipomoea trifida</i> (H.B.K.) G.Don.	3	<i>Convolvulus trifidus</i> Kunth; <i>Ipomoea confertiflora</i> Standl.; <i>Ipomoea radicans</i> Blume; <i>Ipomoea ramonii</i> Choisy; <i>Ipomoea roseana</i> House
<i>Phaseolus augusti</i> Harms	4	<i>Phaseolus bolivianus</i> Piper
<i>Phaseolus mollis</i> Hook.f.	5	No synonyms
<i>Oryza latifolia</i> Desv.	6	<i>Oryza latifolia</i> var. <i>grandispiculis</i> A.Chev.; <i>Oryza alta</i> Swallen; <i>Oryza platyphylla</i> Schult. & Schult.f.; <i>Oryza sativa</i> var. <i>latifolia</i> (Desv.) Döll
<i>Solanum albicans</i> (Ochoa) Ochoa	7	<i>Solanum acaule</i> var. <i>albicans</i> Ochoa Synonym; <i>Solanum acaule</i> subsp. <i>albicans</i> (Ochoa) Hawkes
<i>Solanum albornozii</i> Correll	8	No synonyms
<i>Solanum andreanum</i> Baker	9	<i>Solanum baezense</i> Ochoa Synonym; <i>Solanum cyanophyllum</i> Correll; <i>Solanum pichinchense</i> Bitter & Sodiro; <i>Solanum serratoris</i> Ochoa; <i>Solanum suffrutescens</i> Correll
<i>Solanum asperolanatum</i>	10	<i>Solanum asperolanatum</i> var. <i>asperolanatum</i> ; <i>Solanum hispidum</i> Pers.; <i>Solanum lanatum</i> Dunal; <i>Solanum rusbyi</i> Britton ex Rusby; <i>Solanum sassafrideum</i> Rusby
<i>Solanum chilliasense</i> Ochoa	11	No synonyms
<i>Solanum chomatophilum</i> Bitter	12	<i>Solanum chomatophilum</i> f. <i>chomatophilum</i>
<i>Solanum colombianum</i> Dunal	13	<i>Solanum caquetanum</i> Ochoa; <i>Solanum colombianum</i> var. <i>meridionale</i> Hawkes; <i>Solanum colombianum</i> f. <i>quindiense</i> Bukasov; <i>Solanum colombianum</i> var. <i> trianae</i> Bitter; <i>Solanum colombianum</i> f. <i>zipaquiranum</i> Hawkes; <i>Solanum cuencanum</i> Juz. & Bukasov; <i>Solanum dolichocarpum</i> Bitter; <i>Solanum filamentum</i> Correll; <i>Solanum solisii</i> Hawkes; <i>Solanum tundalomense</i> Ochoa; <i>Solanum venezuelicum</i> Bukasov
<i>Solanum grandiflorum</i> Ruiz & Pav.	14	No synonyms
<i>Solanum minutifoliolum</i> Correll	15	No synonyms
<i>Solanum olmosense</i> Ochoa	16	No synonyms
<i>Solanum torvum</i> Sw.	17	<i>Solanum ficifolium</i> Ortega; <i>Solanum mayanum</i> Lundell