

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA

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Twenty-eighth meeting of the Animals Committee  
Tel Aviv (Israel), 30 August-3 September 2015

Interpretation and implementation of the Convention

Species trade and conservation

Proposals for possible consideration at CoP17

STATUS OF CONSERVATION, USE, MANAGEMENT OF AND TRADE IN  
THE SPECIES OF THE GENUS ABRONIA

1. This document has been submitted by Mexico.\*

Background

2. Through a prospective analysis of international trade in Mexican species carried out between 2005 and 2010, the Scientific Authority of Mexico (National Commission for Knowledge and Use of Biodiversity - CONABIO) and TRAFFIC International identified that international trade in arboreal lizards of the *Abronia graminea* species required more in-depth analysis. Therefore, CONABIO hired national exports and Teyeliz A.C. to compile information on Mexican species from the *Abronia* genus, in accordance with the format laid out in Annex 6 of Resolution Conf. 9.24 (Rev. CoP16).
3. Mexico presented the results of this project at a side event during the twenty-seventh meeting of the Animals Committee (AC27, Veracruz, 2014) and the overall recommendation of those present was that a formal document should be submitted to the twenty-eighth meeting of the Animals Committee (AC26, Tel-Aviv, 2015) calling for the inclusion of the entire genus in CITES Appendix II.

Foundation

4. The *Abronia* genus comprises 28 species: 18 can be found in Mexico (17 of which are endemic), 9 in Guatemala (8 endemic), 2 in Honduras (1 endemic), and 1 in El Salvador (none endemic).
5. A number of *Abronia* species are only recognized by the holotype (*A. leurolepis*, *A. mitchelli*, *A. montecristoi*, *A. ramirezi* and *A. bogerti*) or by other limited specimens (*A. anzuetoi*, *A. bogerti*, *A. chiszari*, *A. frosti*, *A. fuscolabialis*, *A. ochoterenai*, *A. ornelasi*, *A. reidi*, *A. salvadorensis*) (Campbell & Frost, 1993; IUCN, 2013; Bille, 2001).
6. The populations of *A. chiszari*, *A. deppei*, *A. frosti*, *A. fuscolabialis*, *A. graminea*, *A. oaxacae*, *A. taeniata*, *A. martindelcampoi*, *A. montecristoi*, *A. salvadorensis*, *A. campbelli* and *A. vasconcelosii* are considered to be in decline. *A. mixteca*, in particular, was previously abundant in Tecojotes, Oaxaca, but the population has declined significantly as a result of collection for the pet trade. However, the populations of *A. smithi* y

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\* The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

*A. Lythrochila* are considered to be stable (IUCN, 2013; Campbell, 2013). The trends for the following 13 species are unknown: *A. anzuetoi*, *A. aurita*, *A. bogerti*, *A. fimbriata*, *A. gaiophantasma*, *A. leurolepis*, *A. matudai*, *A. meledona*, *A. mitchelli*, *A. ochoterenai*, *A. ornelasi*, *A. ramirezi*, *A. redi*.

7. Using compiled international trade data, four species that are endemic to Mexico (*Abronia graminea*, *Abronia taeniata*, *Abronia oaxacae* and *Abronia ornelasi*) and one endemic to Guatemala were identified (*A. campbelli*) that were exported between 2002 and 2012 to the United States of America. In addition, China, Czech Republic, Germany, Switzerland and the United Kingdom have recorded trade in Mexican species from the *Abronia* genus in their countries. Of the species legally exported from Mexico between 2005 and 2015, the species with the most traded specimens was *A. graminea*. Less than 10 legally exported specimens of the remaining species were recorded in the same period. Based on the imports reported by China and the United States of America, between 1999 and 2012, the most imported species (130 specimens) was *A. graminea*, followed by 82 recorded generic specimens and the less than 10 legally exported specimens of the remaining species were recorded in the same period.
8. Moreover, from compiled international trade data (official enquiries and internet sales), it is clear that international trade in at least five species that are endemic to Mexico that do not have legal export authorizations takes place (*A. martindelcampoi*, *A. smithi*, *A. deppii*, *A. lythrochila* and *A. mixteca*) together with trade in the following species *Abronia vasconcelosii*, *Abronia fimbriata*, *Abronia gaiophantasma* and *Abronia campbelli* (endemic to Guatemala).
9. The species of the *Abronia* genus can be confused by non-specialists. To our knowledge, there is great inter-species variability in terms of external morphological characteristics and the differences between them can be seen by comparing the positions of the scales (Campbell and Frost, 1993). Mexico is developing an identification guide that will at least enable users to differentiate specimens from the *Abronia* genus from the rest of specimens from the Anguidae family. A draft of this document will be submitted as an information document for the twenty-eighth meeting of the Animals Committee (Tel Aviv, 2015).

Request to the Animals Committee

10. The Committee is invited to review the attached document (**ANNEX 1**), which contains the compiled information on the Mexican species from the *Abronia* genus, and to issue recommendations that it considers relevant for Mexico to present a proposal for amendment of the Appendices for the consideration of the seventeenth meeting of the Conference of the Parties to the Convention (South Africa, 2016), to include in Appendix II the species that make up the *Abronia* genus.

## **Assessment of the species of the genus *Abronia* based on the criteria of Resolution Conf. 9.24 (Rev. CoP16)**

## 1. Taxonomy

- 1.1 Class: Reptilia

1.2 Order: Squamata

1.3 Family: Anguidae

1.4 Genus, species or subspecies, including author and year: *Abronia* spp. (Reptile Database, 2014),  
See item 1.7

1.5 Scientific synonyms: A number of *Abronia* species were originally found in the *Gerrhonotus* genus.

1.6 Common names:

## 1.6 Common names:

<b>Species</b>	<b>Spanish</b>	<b>English/French</b>
1. <i>Abronia anzuetoi</i> Campbell & Frost, 1993		Anzuetoi Arboreal Alligator Lizard
2. <i>Abronia aurita</i> (Cope, 1869)		Cope's Arboreal Alligator Lizard
3. <i>Abronia bogerti</i> Tihen, 1954	Escorpión Arborícola de Bogert	Bogert's Arboreal Alligator Lizard
4. <i>Abronia campbelli</i> Brodie & Savage, 1993		Campbell's Alligator Lizard
5. <i>Abronia chiszari</i> Smith & Smith, 1981	Escorpión de Chiszar	Chiszar's Arboreal Alligator Lizard
6. <i>Abronia deppii</i> (Wiegmann, 1828)	Escorpión Arborícola de Deppe	Deppe's Arboreal Alligator Lizard/ L'Abronie de Deppe
7. <i>Abronia fimbriata</i> Cope 1884		
8. <i>Abronia frosti</i> Campbell, Sasa, Aceedo & Mendelson, 1998		Frost's Arboreal Alligator Lizard
9. <i>Abronia fuscolabialis</i> (Tihen, 1944)	Escorpión Arborícola de Zempoaltepec	Mount Zempoaltepec Alligator Lizard
10. <i>Abronia gaiophantasma</i> Campbell & Frost, 1993		Brilliant Arboreal Alligator Lizard
11. <i>Abronia 3ramínea</i> (Cope, 1864)	Escorpión Arborícola de Tehuacán	Sierra de Tehuacan Arboreal Alligator Lizard
12. <i>Abronia leurolepis</i> Campbell & Frost, 1993		Flat-scaled Arboreal Alligator Lizard
13. <i>Abronia lythrochila</i> Smith & Alvarez del Toro, 1963	Escorpión Arborícola de Labios	Red-lipped Arboreal Alligator Lizard
14. <i>Abronia martindelcampoi</i> Flores-Villela & Sánchez-H., 2003		Martin del Campo's Arboreal Alligator Lizard***)
15. <i>Abronia matudai</i> (Hartweg & Tihen, 1946)	Escorpión Arborícola de Matuda	Matuda's Arboreal Alligator Lizard
16. <i>Abronia meleodona</i> Campbell & Brodie, 1999		
17. <i>Abronia mitchelli</i> Campbell, 1982	Escorpión Arborícola de Mitchell	Mitchell's Arboreal Alligator Lizard
18. <i>Abronia mixteca</i> Bogert & Porter, 1967	Escorpión Arborícola Mixteco	Mixtecan Arboreal Alligator Lizard
19. <i>Abronia montecristoi</i> Hidalgo, 1983		MonteCristo Arboreal Alligator Lizard
20. <i>Abronia oaxacae</i> (Günther, 1885)	Escorpión Arborícola Oaxaqueño	Oaxacan Arboreal Alligator Lizard

<b>Species</b>	<b>Spanish</b>	<b>English/French</b>
21. <i>Abronia ochoterenai</i> (Martin del Campo, 1939)	Escorpión Arborícola de Ochoterena	Ochoterena's Arboreal Alligator Lizard
22. <i>Abronia ornelasi</i> Campbell, 1984	Escorpión Arborícola de Ornelas	Ornela's Alligator Lizard)
23. <i>Abronia ramirezi</i> Campbell, 1994		Ramirez's Alligator Lizard
24. <i>Abronia reidi</i> Werler & Shannon, 1961	Escorpión Arborícola de Reid	Reid's Arboreal Alligator Lizard
25. <i>Abronia salvadorensis</i> Hidalgo, 1983		Salvador Arboreal Alligator Lizard
26. <i>Abronia smithi</i> Campbell & Frost, 1993		Smith's Arboreal Alligator Lizard
27. <i>Abronia taeniata</i> (Wiegmann, 1828)	Escorpión Arborícola de Bandas	Banded Arboreal Alligator Lizard
28. <i>Abronia vasconcelosii</i> (Bocourt, 1871)		

1.7 Code numbers: N/A

## 2. Overview

The *Abronia* genus comprises 28 species: 18 can be found in Mexico (17 of which are endemic), 9 in Guatemala (8 endemic), 2 in Honduras (1 endemic), and 1 in El Salvador (none endemic). The 28 species listed in paragraph 1.6 of this document qualify for inclusion in CITES Appendix II in accordance with Article II, paragraph 2a of the Convention due to their low reproduction potential, the conservation status of their populations (assessed by the International Union for Conservation of Nature; and Mexican species based on the criteria of NOM-059-SEMARNAT-2010) and their relevance in international trade.

## 3. Species characteristics

### 3.1 Distribution

Species from the *Abronia* genus have relatively limited and allopatric distribution in tropical forests, cloud forests and pine-oak forests in Mexico, Guatemala, Honduras and El Salvador, which hardly overlap (Bille, 2001; Townsend Peterson and Nieto-Montes de Oca, 1996; Campbell & Frost, 1993). The majority of populations are in isolated mountain peaks or ranges.

The *Abronia* genus comprises 28 species: 18 are found in Mexico (17 of which are endemic), 9 in Guatemala (8 endemic), 2 in Honduras (1 endemic), and 1 in El Salvador (none endemic). (See maps and more details in **Annex 2**).

### 3.2 Habitat

They live at altitudes of 1500–3000 metres above sea level in mountainous regions, with significant temperature gradients, not only between day and night but also between seasons, except four species (*A. bogerti*, *A. chiszari*, *A. ramirezi* and an undescribed species in the Laguna Bélgica Park in Chiapas), which live in tropical forests (IUCN, 2013; Campbell, 1994; Campbell & Frost, 1993) or in the transition area between evergreen and cloud forests between 360 and 1372 metres above sea level. In particular, *A. deppii*, *A. graminea*, *A. lythrochila*, *A. martindelcampo*, *A. mixteca*, y *A. oaxacae*, live in pine-oak forests and montane cloud forests, some of which are at an altitude of up to 3000 metres above sea level (IUCN, 2013; Campbell & Frost, 1993), with epiphyte vegetation, such as lichens, bromeliads, and orchids, which provide dams and moisture (Cruz-Ruiz *et al.*, 2012; Campbell & Frost, 1993). *A. matudai* is found in areas of pine and cypress forest (Campbell, 1994).

They are almost exclusively tree dwelling and can be found in forest canopies at a height of 40 m. However, these lizards may descend to the ground and on rare occasions specimens have been observed swimming and jumping into mountain streams (Campbell & Frost 1993).

### 3.3 Biological characteristics

All of the species from the *Abronia* genus are considered to be poisonous lizards, given that they have a system of poisonous mandibular glands, although there is no risk for humans (Koludarov *et al.*, 2012; Solano-Zavaleta *et al.*, 2007; Campbell & Frost, 1993). They seem to be viviparous, which is an adaptation to their cold mountainous habitat. They have a low reproductive rate. They only mate once a year between September and December, while the hatchlings are born between April and

June at the start of the rainy season. They give birth to between one and 12 hatchlings, with the exception of *A. graminea*, and *A. smithi*, which produce litters of four hatchlings; *A. taeniata*, which produces four to seven hatchlings; and *A. oaxaca*, which produces only one hatchling (Solano-Zavaleta *et al.*, 2007; Campbell & Frost, 1993).

Specimens of *A. graminea* have been recorded hibernating in semi-covered bromeliads with icy water (Campbell & Frost, 1993).

#### 3.4 Morphological characteristics

The arboreal or tree-dwelling lizards are perfectly adapted to living in trees. They have a strong body, triangular, flat head, well-developed extremities and a prehensile tail, which is generally shorter than the body and can be regrown if lost. The common name reflects the species' wide and strong jaw and its thick scales on its back, head and tail. In general, it has a snout to vent length of 50 to 140 mm, the tail is approximately 1.5 times the size the length of the body. *A. anzuetoi* (up to 135 mm snout to vent length) and *A. mixteca* (148 mm snout to vent length) are the biggest species in the genus. *A. matudai* and *A. oaxacae* are the smallest (Campbell & Frost, 1993; Campbell, 1982; Tihen, 1954).

A number of species exhibit green and grey colours (for example, *A. graminea*, *A. matudai*, *A. smithi*, *A. mixteca*), with variations of blue or turquoise in *A. graminea*; others exhibit more creamy yellow colours with dark stripes (for example, *A. taeniata*, *A. martindelcampoi*) and some species are brown with dark patterns and mimetic patches, imitating lichens or mosses (for example, *A. oaxacae*). The number and intensity of transverse stripes, the length and number of lines of ventral and dorsal scales and the number of lateral scales on the neck vary between the different species of the genus (Flores-Villela & Sanchez-H., 2003; Campbell & Frost, 1993; Campbell *et al.*, 1998; Campbell, 1982; Tihen, 1954). *A. taeniata* has eight black bands. A number of species exhibit spiny scales above the ears (Campbell & Brodie, 1999; Campbell & Frost, 1993). Some specimens of *A. graminea* may have a round ring around the eye and some have black or blue eyes, but there seem to be local variations. Annex 2 contains a short description of each species.

#### 3.5 Role of the species in its ecosystem

Arboreal alligator lizards are predators of crustaceans, insects, arachnids and small lizards/skinks (Scincidae family) (Koludarov *et al.* 2012). Additionally, they can contribute to the pollination of bromeliads.

### 4. Status and trends

#### 4.1 Habitat trends

There are high rates of deforestation of montane forests across the range area of species of this genus, due to a change in land use to agriculture and ranching (IUCN, 2013; Campbell and Frost, 1993). Around one third of Mexico and Guatemala are covered by forests, of which 52.9 and 44.3 per cent, respectively, are classified as primary forest.

Mexico is among the five countries in the world with the most deforestation (0.52 per cent per year) (FAO, 2010). Between 1990 and 2010, Mexico lost an average of 274,4500 ha or 0.39 per cent per year, amounting to a total forest cover loss of 7.8 per cent or approximately 5,489,000 ha. in 20 years. In the same period, Guatemala lost an average of 54,550 hectares or 1.15 per cent per year and lost a total of 23 per cent of its vegetation cover, or approximately 1,091,000 hectares (FAO, 2010; Mongabat, 2013).

#### 4.2 Population size

The population size has not been assessed for the majority of species of arboreal alligator lizards, precisely because of its arboreal habits.

A number of *Abronia* species are only recognized by the holotype (*A. leurolepis*, *A. mitchelli*, *A. montecristoi*, *A. ramirezi* and *A. bogerti*) or by other limited specimens (*A. anzuetoi*, *A. bogerti*, *A. chiszari*, *A. frosti*, *A. fuscolabialis*, *A. ochoterenai*, *A. ornelasi*, *A. reidi*, *A. salvadorensis*) (Campbell & Frost 1993; IUCN 2013; Bille 2001).

Díaz-Velasco (2005) reported the capture of 59 specimens of *Abronia graminea* over a period of two years in an area of 1.9 hectares. The location known as *Puerto del Aire* in the municipality of Acultzingo, Veracruz, within the White River Canyon National Park, was visited every month for three days to search for the species. Density is considered to be low given that the results are equivalent to finding one specimen every six trees and personal reports from inhabitants of the area indicate that before it was possible to find up to five specimens in one bromeliad (Díaz-Velasco, 2005). The captures were conducted on the roadside and on the banks of bodies of water and these conditions could influence the occurrence of sightings.

*A. deppii* and *A. fuscolabialis* are described as rare species, *A. smithi* and *A. chiszari* as uncommon, and *A. graminea*, *A. mixteca* and *A. oaxacae* as quite common. *A. lythrochila* and *A. taeniata* are considered common and *A. martindelcampoi* are moderately abundant (IUCN assessments, 2013).

#### 4.3 Population structure

Díaz-Velasco (2005) reports that for *Abronia graminea* the proportion of males was greater than that of females, and during January, March, April, November and December, the proportion of females was zero.

#### 4.4 Population trends

The populations of *A. chiszari*, *A. deppii*, *A. frosti*, *A. fuscolabialis*, *A. graminea*, *A. oaxacae*, *A. taeniata*, *A. martindelcampoi*, *A. montecristoi*, *A. salvadorensis*, *A. campbelli* and *A. vasconcelosii* are considered to be in decline. *A. mixteca*, in particular, was previously abundant in Tecojotes, Oaxaca, but the population has declined significantly as a result of collection for the pet trade. However, the populations of *A. smithi* y *A. Lythrochila* are considered to be stable (UICN 2013; Campbell 2013).

The trends of the following 13 species are unknown: *A. anzuetoi*, *A. aurita*, *A. bogerti*, *A. fimbriata*, *A. gaiophantasma*, *A. leurolepis*, *A. matudai*, *A. meledona*, *A. mitchelli*, *A. ochoterenai*, *A. ornelasi*, *A. ramirezi*, *A. reidi*.

#### 4.5 Geographic trends

Although the geographic trends of the species in the genus are unknown, maps of potential range areas have been developed, for which it was possible to obtain more than 10 georeferenced records of occurrence. MaxEnt software was used to model the ecological niche with variables BIO1 to BIO7 and BIO12 to BIO14, together with altitude ([www.worldclim.org](http://www.worldclim.org)). The runs in MaxEnt were carried out using the automatic characteristics known as "autofeatures" and suggested parameters to adjust as far as possible the inferences in the records (Urbina-Cardona and Flores-Villela, 2010; Phillips and Dudik, 2008). The runs were performed using a regulatory multiplier of 0, to cross-validate, with zero random testing, and applying a minimum of practice testing occurrence as a threshold rule. Logistic output was with 100 replicas for each species, obtaining the likelihood of occurrence (Phillips and Dudik, 2008). The variables were resampled at a resolution of 30 arc seconds (approximately 1 km) and the probability of occurrence of 0.5 to 1 in a model using the QGIS 2.4.0. Chugiak software. The study area was 34 to 12 degrees latitude North and -118 to -82 degrees longitude West. (see ANNEX 2).

**Table 2.** Area potentially occupied by modelled *Abronia* species

Species	Potential range area (km <sup>2</sup> )
<i>Abronia deppii</i>	1226
<i>Abronia graminea</i>	2086
<i>Abronia lythrochila</i>	378
<i>Abronia martindelcampoi</i>	193
<i>Abronia matudai</i>	114
<i>Abronia mixteca</i>	398
<i>Abronia oaxacae</i>	770
<i>Abronia smithi</i>	546
<i>Abronia taeniata</i>	2938

The already finished models were validated and edited manually based on the comments of national experts on the genus, Oscar Flores Villela and Walter Schmidt.

In the case of the remaining Mexican species, no more than 10 records of occurrence were found in the databases consulted (GBIF, HerpNet, National Museum of Natural History of the Smithsonian Institute and SNIB/REMIB) and they were therefore not modelled.

## 5. Threats

Deforestation for the production of firewood and a change of land use from forest to agriculture and livestock is the most serious threat to species from the *Abronia* genus (Ariano-Sánchez et al., 2011; IUCN, 2013). In addition to the loss of habitat, collection for the international pet trade is another threat for, at the very least, *A. deppii*, *A. graminea* (Zaldívar Riverón et al., 2002), *A. mixteca*, and *A. taeniata* (IUCN Red List of Threatened Species, 2013).

In Mexico, the 18 native species of *Abronia* are found in the highest category of Environmental Vulnerability Scores (EVS) (with a range of 15 to 18 points out of a total of 20). Eight species qualify with 18 points, four with 17 points, two with 16 and four with 15 (Wilson et al., 2013, see **Annex 3**).

*A. lythrochila* is the species of herpetofauna that is most impacted by the harvest of bromeliads for religious celebrations in the Chanal forests, Chiapas (Aranda-Coello et al., 2012). In the states of Guerrero, Oaxaca and Puebla, the harvest of *Tillandsia usneoides* for Christmas births is also harmful, since Abronias are considered poisonous and therefore they kill them (personal comment Schmidt, 2015).

On the IUCN Red List of Threatened Species, *A. campbelli* and *A. frosti* are listed as "Critically endangered", *A. aurita*, *A. chizzari*, *A. deppii*, *A. fimbriata*, *A. fuscolabialis*, *A. gaiophantasma*, *A. graminea*, *A. meledona*, *A. martindelcampoi*, *A. matudai*, *A. montecristoi* and *A. salvadorensis* are listed as "Endangered", and *A. anzuetoi*, *A. mixteca*, *A. oaxacae*, *A. vasconcelosii* and *A. taeniata* are listed as "Vulnerable". Another seven species are listed as "Data deficient" and two species in the "Least concern" category.

For *Abronia fimbriata* and *Abronia gaiophantasma*, the export of ornamental *Chamaedaphne calyculata* plant to Japan and Europe is a threat (IUCN, 2015).

## 6. Utilization and trade

### 6.1 National utilization

They are sold as live specimens on the pet market (LEMIS 1999-2012, SEMARNAT 2014).

In Mexico, there is a captive handling register (Intensive Management Units for Conservation of Wildlife (UMAs) for three native species from the *Abronia* genus (*A. deppii*, *A. graminea*, *A. lythrochila*) and one exotic species (*A. campbelli*) through the UMAs, which are legally registered with the General Wildlife Directorate of the Ministry of Environment and Natural Resources (DGVS-SEMARNAT). However, based on the information on UMAs registered for 2015, there are currently only two UMAs handling *Abronia graminea* in its natural habitat (SEMARNAT, 2015, see **Annex 4**).

### 6.2 Legal trade

In order to identify the magnitude and frequency of international trade in Mexican species of *Abronia* spp., the CITES Scientific Authority of Mexico (CONABIO), in collaboration with national experts, governmental institutions and civil society associations, has undertaken the following actions:

#### 6.2.1 Analysis of legal trade of the genus in Mexico.

From 2005 to 2015 in Mexico, DGVS-SEMARNAT authorized the exploitation of three endemic species: *A. graminea*, *A. deppii*, y *A. lythrochila*, and one species that is not native to Mexico (*Abronia campbelli*) with distribution in Guatemala. It also authorized the export to the United States of America of specimens of *A. graminea* for commercial and scientific purposes and of *A. taeniata*, *A. oaxacae*, y *A. ornelasi* for scientific purposes (see **Table 2**).

**Table 2** Authorizations of exploitation and export of specimens from the *Abronia* genus from Mexico for the period 2005–2015 (SEMARNAT 2014).

Species	Authorized exploitation		Legal exports		
	TOTAL specimens	Origin of the specimens (UMA #)	TOTAL specimens	Origin*	Purpose
<i>Abronia deppii</i>	27	1			
<i>Abronia graminea</i>	249	4	94	55 C, 33 U, 6 W	53 T, 6 S, 35 B
<i>Abronia lythrochila</i>	28	1			
<i>Abronia campbelli</i>	12	1			
<i>Abronia taeniata</i>			9	W	S
<i>Abronia oaxacae</i>			6	W	S
<i>Abronia ornelasi</i>			6	W	S
<b>GRAND TOTAL</b>	<b>316</b>		<b>115</b>		

\*The origin codes are: C = Bred in captivity, W = wild y U= Unknown; the purpose codes are: T= Trade, S= Scientific y B=Breeding

#### 6.2.2 Sales on websites.

In order to gather more information regarding trade in these species, a search was carried out on the Internet for sites that offer species from the genus. In this search, the country from which the website originates was identified, together with the species involved and the nationality of the vendor (see **ANNEX 5**). Overall, sellers of the following nationalities were identified: Mexico, France, Sweden, Netherlands, United Kingdom of Great Britain, United States of America and Czech Republic who were offering specimens from the genus on websites from Germany, United States of America and France and on social networks.

#### 6.2.3 Official consultations

In order to have more clarity on international trade performance for the species from this genus, on 31 January 2014, CONABIO, through order OF. DGII-081/2014, consulted the CITES Authorities of countries that recorded international trade and of range States, and representatives of all CITES regions.

Parties consulted were (16 Parties): Austria, Canada, Czech Republic, France, Germany, Guatemala, Honduras, Hong Kong, Japan, Spain, Switzerland, Thailand, Ukraine, United Kingdom, United States of America. Responses were obtained from eight of them and two regional representatives as a State Party (Israel and New Zealand). Below is a summary of the questions asked:

- To confirm the presence of international trade in the country of any species of the *Abronia* genus.
- Which species are subject to international trade?
- Volume, sex and age class of traded specimens
- Countries of origin and destination, as well as origin (captivity, wild, or others) and purpose (commercial, scientific, zoo, breeding in captivity, pet or others) of the traded specimens.
- Captive breeding establishments in the country.
- Additional information.

Four Parties responded that there is no known trade in the species in the country (Austria, Israel, New Zealand and Thailand); and six responded that there is trade in one or more of the species from the *Abronia* genus in the country: Germany (*A. deppii*, *A. graminea*, *A. lytrochila*, *A. mixteca* and *A. taeniata*), China (*A. anzuetoi* y *A. graminea*), United States of America (*A. deppii*, *A. graminea*, *A. lythrocilia*, *A. mixteca*, *A. oaxacae* and *A. taeniata*), Czech Republic (*A. graminea* and *A. vasconcelosii*), Switzerland (*A. anzuetoi*, *A. deppii*, *A. graminea* and *A. taeniata*) and United Kingdom (*A. graminea*, *A. smithi* and *A. taeniata*). The United Kingdom also mentioned that it is likely that there are low numbers of *A. oaxacae*, *A. lythrocilia*, *A. deppii*, *A. vasconcelosii* and *A. bogerti*, although the presence of these species cannot be confirmed. With regard to the origin of species in the United Kingdom, it was stated that they are bred in captivity and come from Europe, with prices around €1400.

Only China and United States of America provided quantifiable information about the volume of international trade (see **Table 3**).

**Table 3.** Information on international trade from United States of America (US) and China (CN) received in response to the enquiry of the Scientific Authority of Mexico (OF. DGCII-081/2014). The abbreviations indicate: Ind = Specimens, Imp = Imported, Exp = Exported, The codes for country, purpose and origin are those used by UNEP-WCMC<sup>1</sup>.

Country	Species traded (Native range is indicated)	Countries of origin, destination; source and purpose of international trade							
		Year	Country of origin	Source	Importing country	Ind. Imp.	Exporting country	Ind. Exp.	Purpose
CN	<i>A. graminea</i> (MX)								T and P (pet)
US	<i>A. graminea</i> (MX)	1999-2012	GT, MX	C, W	JP, CA, HK	130	US	80	T, S, Z, B
CN (HK)	<i>A. anzuetoi</i> (GT)	2010-2013			HK	3	DE		
US	<i>A. deppii</i> (MX)	1999-2012			US			1	
US	<i>A. lythrocilia</i> (MX)	1999-2012		C	US	11	DE		T, B
US	<i>A. mixteca</i> (MX)	1999-2012			US			1	
US	<i>A. oaxacae</i> (MX)	1999-2012			US	2		1	
US	<i>Abronia</i> spp	1999-2012				82		62	
US	<i>A. taeniata</i> (MX)	1999-2012	MX, ZA, FR, UA	C, W	DE, CA, FR	15	US	10	T, S, B
<b>GRAND TOTAL</b>						<b>243</b>		<b>155</b>	

It should be made clear that the United States of America mentioned that it does not have a register of sites authorized to breed these species in captivity. However, it indicated that, at the very least, “Project Abronia” was reproducing *Abronia graminea*, *A. taeniata* and *A. vasconcelosii*.

For its part, Germany reported that *A. graminea* and *A. taeniata* are found in zoos and that other species from the genus are regularly sold on the Internet and at national reptiles fairs. In addition, it indicated that publications about captive breeding methods for *Abronia graminea* and *A. lythrocilia* were available.

### 6.3 Parts and derivatives in trade

Arboreal alligator lizards are mainly marketed as live animals, although there are records of sporadic trade in bones and skins (US. LEMIS 2002-2012 database, SEMARNAT 2014).

<sup>1</sup> [http://www.unep-wcmc-apps.org/citestrade/docs/EN-CITES\\_Trade\\_Database\\_Guide.pdf](http://www.unep-wcmc-apps.org/citestrade/docs/EN-CITES_Trade_Database_Guide.pdf), v.8

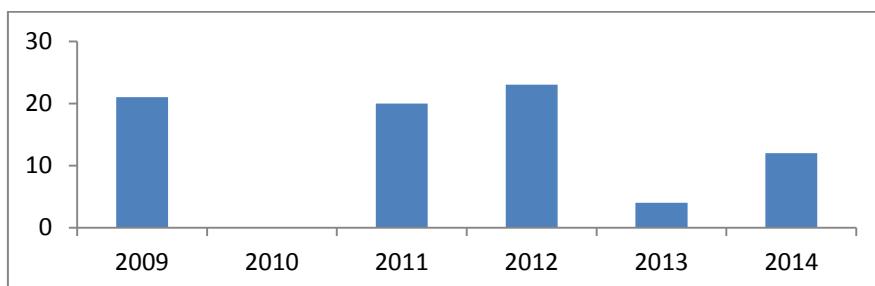
#### 6.4 Illegal trade

In consultation with Federal Attorney's Office for Environmental Protection (PROFEPA), in the period 2005–2015, information was obtained about the seizure of 64 specimens of *Abronia graminea*, 13 specimens of *A. taeniata*, and 3 specimens of *A. deppii* (**Table 4 and Graph 1**).

**Table 4.** Seizures of specimens from the *Abronia* genus 2005–2015

Scientific name	Amount	State	Year
<i>Abronia deppii</i>	2	DISTRITO FEDERAL	2011
	1	DISTRITO FEDERAL	2014
<i>Abronia graminea</i>	21	DISTRITO FEDERAL	2009
	3	DISTRITO FEDERAL	2011
	4	DISTRITO FEDERAL	2011
	19	VERACRUZ	2012
	4	DISTRITO FEDERAL	2012
	4	NUEVO LEÓN	2013
	1	DISTRITO FEDERAL	2014
	8	DISTRITO FEDERAL	2014
	11	DISTRITO FEDERAL	2011
<i>Abronia taeniata</i>	2	PUEBLA	2014

Source: PROFEPA 2015



**Graph 1.** Seizures (number of specimens/year) of *Abronia* spp. in Mexico based on information provided by PROFEPA for the period 2005–2015 (before 2009 there is no seizure data).

The magnitude of illegal trade in Mexican species from the *Abronia* genus is unknown.

However, from the compiled international trade data (official consultations and Internet sales), it is evident that international trade occurs in at least five species that are endemic to Mexico that do not have legal authorizations for exploitation or export (*A. martindelcampoi*, *A. smithi*, *A. deppii*, *A. lythrocilia* and *A. mixteca*).

Moreover, there are anecdotal figures on the Internet from various sources that affirm the existence of illegal trade in species from this genus, among which should be highlighted: the seizure in the United Kingdom in 2009 of three specimens of *A. aurita* hidden in a video cassette (Anon. 2009a), the sale of two specimens of *Abronia graminea* from a non-existent UMA ("La Grillera") in Veracruz to the European Union (Wagner, 2012) and the sale in online forums of specimens of *A. vasconcelosii* from the wild in Guatemala (Wagner, 2009). Furthermore, Fitzgerald *et al.* (2004) claim that there is illegal international trade in species from the *Abronia* genus. Schmidt (personal comment, 2015) remarks that the most trafficked species are *A. mixteca*, *A. lythrocilia*, *A. taeniata*, *A. graminea*, *A. martindelcampoi* and *A. deppii*, and that the majority of trafficking in *Abronia* species is carried out in Puerto del Aire. In 2010, 47 specimens of *Abronia campbelli* were confiscated from the illegal trade market (Ariano-Sánchez *et al.* 2013).

A report by Pro Wildlife (Altherr, 2014), shows the timeline of trade in species from the *Abronia* genus:

• 2011: 6 species, 3 traders/keepers (deppii, graminea, martindelcampoi, mixteca, reidi and taeniata)
• 2012: 8 species, 11 traders/keepers (new in trade: A. campbelli, lythrochila and smithi)
• 2013: 12 species, 31 traders/keepers (new in trade: chiszari, fimbriata and oaxacae)
• 2014: 12 species, 34 traders/keepers (new in trade: frostii and gaiophantasma)
• 2015: so far 7 species and 19 traders/keepers

## 6.5 Actual or potential trade impacts

Trade in specimens from the *Abronia* genus seems to be increasing, compared to the 1990s when these animals were very rarely sold. (Wagner 2008b).

Given the low reproduction rates of the species, their restricted distribution, loss of habitat and the international demand for the pet trade (IUCN, 2013; Campbell, 2013; Campbell and Frost, 1993), we can consider that unregulated harvest from the wild of species such as *A. oaxacae*, *A. graminea*, *A. taeniata* and *A. smithi* could endanger their survival.

## 7. Legal instruments

### 7.1 National

In Mexico, 14 of the 18 native species are included in Official Mexican Standard NOM-059-SEMARNAT-2010 (SEMARNAT, 2010) under the following categories:

- Endangered (P): *A. bogerti*, *A. chiszari*, *A. ochoterenai*, *A. ornelasi* and *A. reidi*
- Threatened (A): *A. deppii*, *A. fuscolabialis*, *A. graminea*, *A. lythrochila*, *A. matudai*, *A. mixteca* and *A. oaxacae*
- Subject to special protection (Pr): *A. mitchelli* and *A. taeniata*

On being listed in the abovementioned Standard, exploitation of a species is regulated by the General Wildlife Act (SEMARNAT, 2000), which is implemented by the General Wildlife Directorate of SEMARNAT.

### 7.2 International

No species from the genus is listed in the CITES Appendices.

## 8. Species management

### 8.1 Management measures

In Mexico, a number of *Abronia* populations live in protected natural areas managed by the National Commission of Natural Protected Areas (CONANP), such as *A. deppii* (Chichinautzin Biological Corridor Flora and Fauna Protection Area, Lagunas de Zempoala National Park and Sierra de Huautla Biosphere Reserve), *A. chiszari* (Los Tuxtlas Biosphere Reserve), *A. graminea* (Tehuacán-Cuicatlán Biosphere Reserve and the following National Parks: Cofre de Perote, Cañón Río Blanco and Pico de Orizaba), *A. lythrochila* (Lagunas de Montebello National Park and occasionally in the Huitepec Nature Reserve, managed by the conservation organizations, Pronatura), *A. matudai* (Tacana Volcano and Tajmulco Volcano Biosphere Reserve), *A. mitchelli* (Cerro Pelón Forest, protected by the local community from Comaltepec), *A. reidi* (Los Tuxtlas Biosphere Reserve), *A. smithi* (El Triunfo Biosphere Reserve), and *A. taeniata* (El Chico and Los Mármoles National Parks and Barranca de Meztitlán Biosphere Reserve in Hidalgo, Sierra Gorda Biosphere Reserve, Querétaro, and Rancho El Cielo Biosphere Reserve, Tamaulipas) (Maciel, 2013; IUCN, 2013; Flores-Villela and Schmidt, personal comment, 2015) (See **Table 6**)

On the other hand, *A. bogerti*, *A. leurolepis*, *A. oaxacae*, *A. ochoterenai*, *A. ornelasi* and *A. ramirezi* have not been recorded in any Protected Nature Area (IUCN, 2013).

Using the potential distribution maps developed for this document, the models were placed over the maps of Protected Natural Areas (obtained from [www.protectedplanet.net](http://www.protectedplanet.net)):

**Table 6.** Species that might be found within Protected Natural Areas based on the potential distribution maps

Species	Potential range area within Protected Natural Areas (km <sup>2</sup> )	Percentage of potential range area within Protected Natural Areas
<i>Abronia deppii</i>	78	6 %
<i>Abronia graminea</i>	438	21 %
<i>Abronia lythrochila</i>	1	0.29 %
<i>Abronia matudai</i>	16	14 %
<i>Abronia oaxacae</i>	33	4 %
<i>Abronia smithi</i>	350	64 %
<i>Abronia taeniata</i>	527	18 %

In Guatemala, *Abronia fimbriata* and *A. gaiophantasma* can be found in protected areas such as the Mario Dary Rivera University Biotope and the Sierra de las Mina Biosphere Reserve and some private reserves; *A. vasconcelosii* can be found in a number of reserves; *A. meledona* is found in a small reserve (15 ha) and there is a captive breeding programme for this species (D. Ariano, personal comment, 2012, in IUCN, 2015); *A. montecristoi* (IUCN, 2015) is found in the Montecristo National Park and close to the Cerro Azul de Copan National Park. Approximately 18 per cent of the habitat of *A. campbelli* is found in a private reserve in which there is a captive breeding programme (D. Ariano, personal comment, 2012, in IUCN, 2015).

## 8.2 Population monitoring

In both Mexico and Guatemala, field studies of a number of *Abronia* species are being carried out. In Mexico, the National Commission of Natural Protected Areas (CONANP), through the Conservation Programme for Endangered Species (PROCER), is managing a project entitled “Diagnosis of the *Abronia* populations in Mexico and consolidation of conservation strategies:”, the objective of which is to generate up-to-date information about the biology, distribution and population status of, threats to, and impacts on species from the *Abronia* genus in Mexico in order to develop a conservation strategy for the species and their habitat and ecosystems in Protected Natural Areas and Priority Conservation Regions. The initial results of the project are expected at the start of 2016. Control measures.

### 8.2.1 International

None

### 8.2.2 National

A number of species are included in NOM-059-Semarnat-2010 (see paragraph 7.1) and their exploitation is regulated by the General Wildlife Act.

## 8.3 Captive breeding and artificial propagation

Currently in Mexico, 3 of the 18 endemic species and one exotic species (*Abronia campbelli*) are bred in captivity (SEMARNAT 2015 see **ANNEX 4**).

Moreover, the Abronia Project, a private initiative of Atlanta Zoo and the organization, Zootropic, reports the breeding in captivity of *A. graminea*, *A. taeniata* y *A. vasconcelosii*. The projects report that they started in 2008 and that they have a group of 19 adults of *A. graminea* in their reproductive colonies in Veracruz and that they have registered with and received permission from SEMARNAT in Mexico (Project Abronia, 2008).

In an enquiry carried out the Scientific Authority of the United Kingdom using the International Species Information System, records were found of captive specimens of four species from the *Abronia* genus in zoos in the United States of America (see **Table 7**).

**Table 7.** Species of the *Abronia* genus in captivity in zoos in the United States of America base don the International Species Information System reported by the United Kingdom during consultations with the Scientific Authority of Mexico.

Common name	Scientific name	Captive specimens	Number of zoos that keep them in captivity
Terrestrial alligator lizard	<i>Abronia graminea</i>	40	5
Terrestrial alligator lizard	<i>Abronia mixteca</i>	2	1
Bromeliad alligator lizard	<i>Abronia oaxacae</i>	1	1
Terrestrial alligator lizard	<i>Abronia taeniata</i>	2	1
TOTAL		45	

#### 8.4 Habitat conservation

According to the Food and Agriculture Organization of the United Nations (2010), 13 per cent of forests in Mexico (8.5 million hectares) are found in protected natural areas.

#### 8.5 Safeguards

#### 9. Information on similar species

The species of the *Abronia* genus can be confused by non-specialists. To our knowledge, there is great inter-species variability in terms of external morphological characteristics and the differences between them can be seen by comparing the positions of the scales (Campbell and Frost, 1993).

#### 10. Consultations

Based on the recommendation issued at a side event during the last meeting of the Animals Committee (AC27, Veracruz, 2014), on 18 February 2015, the CITES Scientific Authority of Mexico (CONABIO) sent official enquiries to El Salvador, Guatemala and Honduras (ranges States for all of the species of the genus). We received responses from Guatemala and Honduras confirming their intention to include the entire genus in CITES Appendix II.

#### 11. Additional remarks

None

#### 12. References

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### **Mapas de distribución potencial y descripción de las especies del género de *Abronia***

1. ***Abronia anzuetoi*: GT:** Nativa del Volcán de Agua, Escuintla, en el centro-sur de Guatemala (Campbell & Frost 1993). Se distingue de otras especies del género por presentar la siguiente combinación de características: escamas supra-auriculares en forma de espina, 14 filas de escamas longitudinales ventrales, zona circumorbital amarilla, color verde oscuro o azul-verde oscuro, tamaño máximo de 135 mm., posmental dividido (Campbell & Frost, 1993).



*Abronia anzuetoi*. Ariano-Sánchez, D., Acevedo, M. & Johnson, J. 2014. *Abronia anzuetoi*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

2. ***Abronia aurita*: GT:** Tierras altas de Verapaz, Guatemala. Dos escamas posmentales, escama posmental dividida. Color verde, verde-amarillo, o turquesa pálido, con abundantes motas negras con bandas horizontales oscuras, la zona alrededor de los ojos es amarilla, manchas naranjas en la cabeza y el margen de la mandíbula inferior también naranja. Un tamaño máximo de 125 mm (Campbell & Frost, 1993),



*Abronia aurita*. Acevedo, M., Ariano-Sánchez, D. & Johnson, J. 2013. *Abronia aurita*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

3. ***Abronia bogerti*: MX:** Se conoce de Niltepec (entre Cerro Atravesado y la Sierra Madre) y de Cerro Baúl, Oaxaca (Bille 2001). Lagartija de cuerpo delgado. El único ejemplar conocido para la especie mide 64 mm de longitud de hocico a la cloaca y 113 mm de longitud total. Coloración dorsal verdosa con diez a once barras transversales poco definidas en el cuello y la parte dorsal del cuerpo. Se distingue de las demás especies de su género por presentar un par de escamas postmentales, osteodermos dorsales desarrollados únicamente en unas cuantas hileras de escamas ubicadas en la parte anterior del cuerpo, una sola escama temporal en contacto con la órbita, penúltima supralabial en contacto con la órbita, parietales en amplio contacto con las supraoculares medianas, cantales anteriores presentes, 41 hileras de escamas transversales dorsales, y un mínimo de ocho escamas en una hilera del cuello (descripción tomada de Tihen, 1954; Good, 1988; Campbell, 1994).



*Abronia bogerti*. Campbell, J.A. 2007. *Abronia bogerti*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

4. *Abronia campbelli*: **GT**: Conocida de Potrero Carrillo-La Pastoría, Jalapa en Guatemala Centro oriental (Ariano-Sánchez & Torres-Almazán 2010; Brodie & Savage 1993). Presenta escamas supra-auriculares en forma de espina, color de gris a café, la región orbital y las espinas supra-auriculares son color crema, nunca amarillas, temporal terciario grande y con contacto con el segundo temporal primario, 31 filas de escamas dorsales trasversales, 34 filas transversales ventrales (Broadie & Savage, 1993).



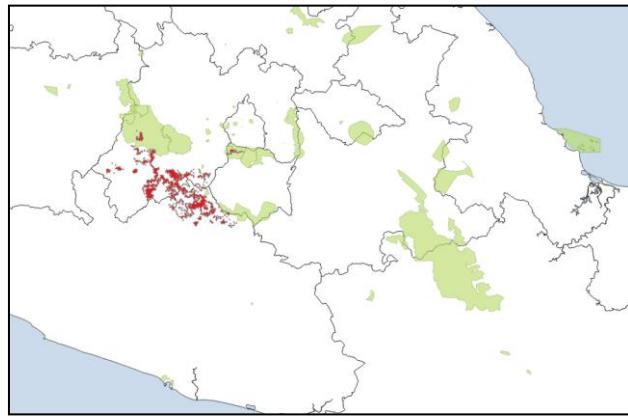
*Abronia campbelli*. Ariano-Sánchez, D., Johnson, J. & Acevedo, M. 2013. *Abronia campbelli*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

5. *Abronia chiszari*: **MX**: Restringida a los volcanes Santa Martha y San Martín, en la Sierra de los Tuxtlas, Veracruz. Lagartija de cuerpo alargado, cola prensil, y patas relativamente largas, (Campbell & Frost, 1993). Es muy similar a otras especies del subgénero *Scopaeabronia*, especialmente a *Abronia bogerti*, estando justificado el estatus taxonómico entre ambas especies más por distancia geográfica entre sus áreas de distribución que por diferencias en su morfología (Smith & Smith, 1981). Se distingue de los demás miembros de su género por presentar las siguientes características (Smith & Smith, 1981; Heimes, en preparación): 39 o más hileras transversales de escamas dorsales y ocho hileras transversales de escamas nucales; cuerpo y cabeza muy delgados y alargados; la cabeza en los adultos es color gris plateado con marcas oscuras; color de fondo en la región dorsal del cuerpo gris y amarillo con bandas transversales oscuras; vientre gris con pequeñas manchas de tono más oscuro. Los especímenes adultos alcanzan una longitud hocico cloaca conocida de hasta 93 mm.



*Abronia chiszari*. Lopez-Luna, M.A., Flores-Villela, O. & Frost, D.R. 2007. *Abronia chiszari*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

6. *Abronia deppii*: **MX**: Corredor Ecológico del Chichinautzin, Morelos, montañas cerca de Zitácuaro, Michoacán. Norte de guerrero en la Sierra de Taxco. Su límite de distribución es el lado noreste de la cuenca del Río Balsas (Flores-Villela y Schmidt, com. pers. 2015). Lagartija de cuerpo alargado, cola prensil, y patas relativamente cortas (Campbell & Frost, 1993). Se distingue de las demás especies de su género por presentar la siguiente combinación de características de escamación y coloración (Campbell & Frost, 1993): escamas posterolaterales de la cabeza en forma de bulbo y poco desarrolladas; 14 hileras longitudinales de ventrales; 10-13 hileras longitudinales de dorsales; pliegue lateral muy reducido; una subocular; coloración dorsal en los adultos blanca o gris con seis u ocho bandas de color negro o gris oscuro; coloración ventral anaranjada.



*Abronia deppii*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

7. *Abronia fimbriata*: **GT**: Bosques de niebla en la porción occidental de la Sierra de las Minas, Departamento de Alta Verapaz, a una altitud de 1,400-2,000 msnm. Color café-grisaceo, los costados del cuello son gris claro, la parte inferior de la cabeza es de rosa a amarillo-blancos. Se distingue por presentar la siguiente combinación de características: no presenta la escama frontonasal media, cuerpo alargado, escamas supra-auriculares en forma de espinas, no presenta las escamas frontonasales, escamas cantales discretas, supranasales largas y expandidas que se contactan en la línea media (Campbell & Frost, 1993).



*Abronia fimbriata*. Acevedo, M., Ariano-Sánchez, D. & Johnson, J. 2014. *Abronia fimbriata*. The IUCN Red List of Threatened Species. Version 2015.2. [www.iucnredlist.org](http://www.iucnredlist.org). Downloaded on 25 June 2015.

8. *Abronia frosti*: **GT**: Patalcal, Sierra de Los Cuchumatanes Huehuetenango, a 2,35 m msn (Campbell et al. 1998; Ariano-Sánchez et al. 2011). Se distingue por presentar la siguiente combinación de características: escama frontonasal presente sin contacto con la frontal, cantales discretos, dos temporales anteriores por lado, ambos contactan los posoculares, solo dos temporales primarios, tiene un color basal oscuro con marcas transversales claras en los lados y dorso del cuerpo (Campbell et al. 1998).



*Abronia frosti*. Ariano-Sánchez, D., Acevedo, M. & Johnson, J. 2013. *Abronia frosti*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

9. ***Abronia fuscolabialis*: MX:** Cerro Zempoaltepec, cerca de Totontepec, y en la Sierra Juárez. Lagartija con una longitud hocico-cloaca de por lo menos 118 mm. Se distingue por presentar la siguiente combinación de características de escamación y coloración (Campbell & Frost, 1993): 1) supraauriculares no protuberantes en adultos; 2) supranasales pequeñas y no expandidas; 3) frontonasal relativamente grande, separada de la frontal; 4) internasal posterior relativamente pequeña; 5) cantal poco conspicua; 6) cuatro temporales anteriores en cada lado, las dos inferiores en contacto con las postoculares; 7) parietal separada de las supraoculares mediales; 8) una sola occipital; 9) escamas posterolaterales de la cabeza en forma de bulbo; 10) una sola hilera de preauriculares; 11) postmentonal dividida; 12) cuatro a seis hileras nucales longitudinales; 13) 28-32 hileras transversales de dorsales; 14) 11-14 hileras longitudinales de dorsales; 15) los adultos presentan un color de fondo verde turquesa con bandas transversales oscuras. La población procedente de Cerro Pelón, en la Sierra de Juárez, Oaxaca, descrita originalmente como *Abronia kalaina* (Good & Schwenk, 1985), en realidad representa una población de *A. fuscolabialis* (Campbell & Frost, 1993).



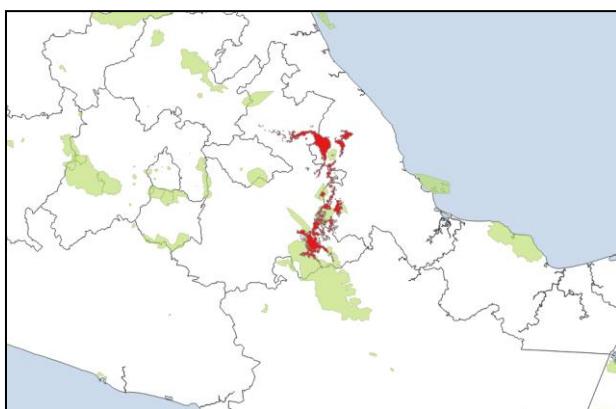
*Abronia fuscolabialis*. Campbell, J.A. 2007. *Abronia fuscolabialis*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015

10. ***Abronia gaiphantasma*: GT:** Cerro Verde y Cerro Quisís en las cercanías def La Unión Barrios, Baja Verapaz, a 1,600-1,929 m msn (Campbell & Frost 1993). Se distingue de otras especies del género por presentar la siguiente combinación de características: parte dorsal café-rojiza, de siete a nueve bandas transversales oscuras, region de la mandibula inferior blanca, no presenta una cuarta fila de escamas temporales, escamas supra-auriculares en forma de espina (Campbell & Frost, 1993).



*Abronia gaiophantasma*. Ariano-Sánchez, D., Acevedo, M. & Johnson, J. 2014. *Abronia gaiophantasma*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

11. ***Abronia graminea*: MX:** Endémica de las tierras altas de los estados de Veracruz, Oaxaca y partes adyacentes de Puebla. Lagarto de cuerpo deprimido dorso-ventralmente (Campbell & Frost, 1993). Presenta la cabeza aplanada y triangular, escamas preauriculares en forma granular, y 12 hileras longitudinales de escamas ventrales (Good, 1988). Los adultos llegan a medir hasta 106 mm de longitud hocico cloaca y 160 mm de longitud de la cola (Good, 1988). La coloración dorsal de los especímenes adultos presenta una considerable variación, pudiendo ser de verde inmaculado a café pardusco con bandas transversales poco evidentes de color café oscuro o negro (Schmidt, Heimes, & Zaldívar-Riverón, 2001, personal).



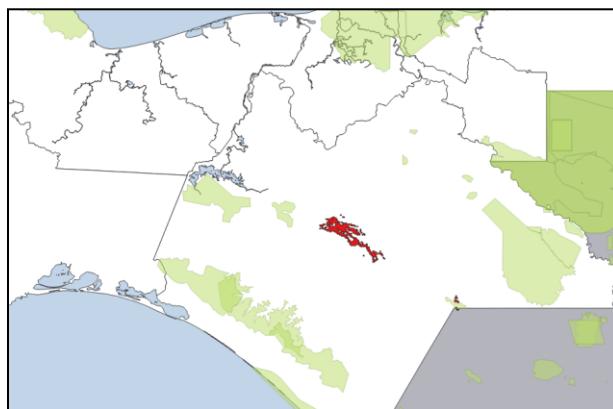
*Abronia graminea*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

12. ***Abronia leurolepis*: MX:** Localidad tipo en el este del estado de Chiapas. Se distingue de las demás especies de su género por las siguientes características: escamas supra-auriculares en forma de espina, doce filas de escamas ventrales longitudinales, no tiene una escama frontonasal, no tiene supranasales expandidas que se contactan en la línea media dorsal, tiene más filas de escamas dorsales transversales (31 en lugar de 27-30), tiene escamas dorsales casi planas y es un animal más robusto. Presenta un color grisáceo en el dorso con estrechas bandas oscuras de forma irregular, la cola tiene manchas redondas oscuras, las escamas ventrales son pálidas que se oscurecen en la parte anterior de cada una (Campbell & Frost, 1993).



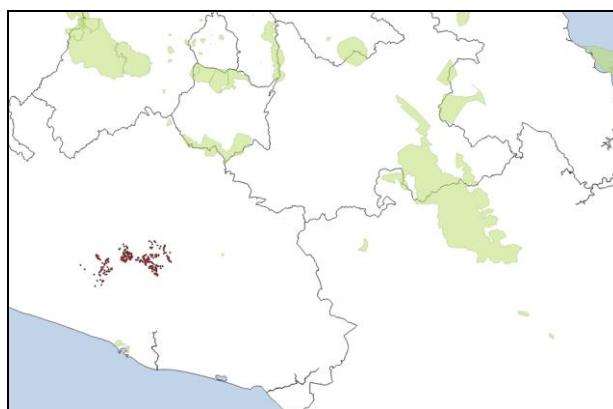
*Abronia leurolepis*. Campbell, J.A. & Muñoz-Alonso, A. 2007. *Abronia leurolepis*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015

13. *Abronia lythrochila*: **MX:** Registrada en la Meseta Central de Chiapas, de San Cristóbal de las Casas a Comitán. Lagarto de cuerpo aplanado dorso-ventralmente (Campbell & Frost, 1993). Se distingue de los demás miembros de su género por presentar la siguiente combinación de características (Campbell & Frost, 1993): 1) cabeza aplanada y triangular; 2) escamas preauriculares granulares y escamas suprauriculares espinosas; 3) postmentonal no dividida; 4) parietales separadas por una escama temporal primaria superior; 5) 14 hileras de escamas ventrales longitudinales; 6) cantal ausente; 7) una prenasal; 8) cuatro escamas en la segunda hilera temporal; 9) escamas de la cabeza muy rugosas; 10) escamas dorsales en 32-35 hileras transversales. La coloración dorsal en los especímenes adultos de esta especie es variable, pudiendo ser café clara, amarillenta, rojiza, grisácea o casi enteramente negra. Algunos ejemplares muestran manchas en la cabeza, escamas sublabiales y dorso de color rojo o anaranjado. El vientre es blanco inmaculado. Los especímenes adultos llegan a medir hasta 113 mm de longitud hocico cloaca (Heimes & Schmidt, 2001, personal).



*Abronia lythrochila*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

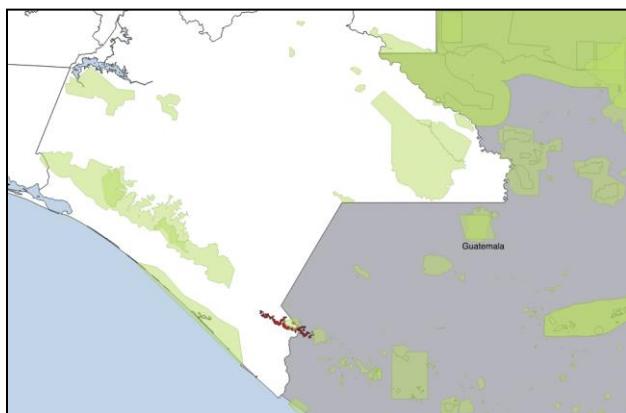
14. *Abronia martindelcampo*: **MX:** Endémica de los alrededores de Omiltemi en la Sierra Madre del Sur de Guerrero (Flores-Villela & Sánchez-H 2003). Su distribución se limita hasta el Río Balsas (Flores-Villela y Schmidt, com. pers. 2015). Lagartija con 24- 28 ( xx 5 26.2) hileras de escamas dorsales transversales; 10-12 hileras de escamas dorsales longitudinales ( xx 5 10.6); 34-37 ( xx 5 35) hileras de escamas ventrales transversales; 12— 14 ( xx 5 13.3) hileras de escamas longitudinales transversales ventrales; 76-80 espirales de escamas en colas no regeneradas; usualmente un mínimo de seis escamas nucales (uno de 12 especímenes tenía 5); 6-8 ( xx 5 6.6) escamas entre las patas traseras; 9-10 supralabiales; anterior temporales 3/3; posterior temporales 3/3; 5/5 media supraoculares; una temporal en contacto con postocular; usualmente una subocular (2 de 12 especímenes tenían 2, ver Good, 1988:20); dos postmentales; y una occipital. Las supra nasales no están expandidas; frontonasal y frontal usualmente en contacto; no hay contacto del superciliar anterior y el cantoloreal (solo 1 una de 12 tenía contacto); escamas laterales del cuello agrandadas; osteodermos reducidos o ausentes en el dorso de los adultos.



*Abronia martindelcampo*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

15. *Abronia matudai*: **MX-GT:** Las poblaciones en México están limitadas al volcán Tacaná, en el sureste de Chiapas. Suroeste de Guatemala, cerca de San Marcos. Lagartija de cuerpo alargado, cola prensil, y patas cortas (Campbell & Frost, 1993). Se distingue de demás especies del género por poseer la siguiente

combinación de caracteres de escamación (Hartweg & Tihen, 1946): supranasales expandidas; una sola occipital; suprauriculares protuberantes pero no en forma de espina sino redondeadas; parietal en amplio contacto con las supraoculares; seis nucales; dorsales en 14-16 series de hileras longitudinales y 33-33 hileras transversales; ventrales en 2-14 series de hileras longitudinales. La coloración dorsal en *Abronia matudai* es verde pálido inmaculado en los adultos, mientras que los juveniles poseen de 10 a 11 bandas transversales de color café oscuro; el vientre tanto en adultos como en crías es blanco verdusco. La longitud hocico-cloaca en los individuos adultos de esta especie alcanza los 110 mm (Hartweg & Tihen, 1946).



*Abronia matudai*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

16. *Abronia meledona*: **GT**: Localidad tipo cerca de Torre de Guatel, cerca de la Aldea de la Soledad Grande, Jalapa (Campbell & Brodie 1999). Se distingue de demás especies del género por poseer las siguientes características: escamas supra-auriculares en forma de espina, las supranasales son pequeñas y no expandidas sin contacto en la línea media, una escama media frontonasal. Color dorsal crema rosa o verde con manchas negras, zona circumorbital amarilla.



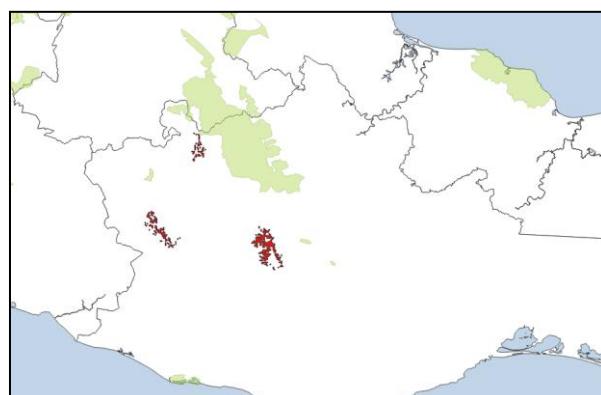
*Abronia meledona*. Ariano-Sánchez, D., Acevedo, M. & Johnson, J. 2013. *Abronia meledona*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

17. *Abronia mitchelli*: **MX**: Holotipo colectado en Cerro Pelón, en el costado norte de la Sierra de Juárez, Oaxaca (Campbell 1982). Lagartija de cuerpo alargado, cola prensil y patas cortas (Campbell & Frost, 1993). El único ejemplar conocido es una hembra adulta que presenta una longitud hocico-cloaca de 105 mm. Su cabeza es triangular y aplanada dorsolateralmente. Se distingue de los demás miembros de su género por poseer la siguiente combinación de características de escamación y coloración (Campbell, 1982): pliegue lateral bien desarrollado; dos occitales; una hilera de escamas entre las occitales y la primera hilera transversal de nucales; las supranasales son grandes y de forma triangular; presencia de una cantal; seis hileras transversales de nucales; 34 y 16 hileras transversales y longitudinales de dorsales, respectivamente; 12 hileras transversales de ventrales; coloración en vida verde grisáceo con marcas negras en toda la región dorsal; la garganta y el vientre son de color gris con un tinte rosado.



*Abronia mitchelli*. Campbell, J.A. 2007. *Abronia mitchelli*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

18. ***Abronia mixteca*: MX:** Registrado en la vecindad de la localidad tipo cerca de Tecojotes y la Mixteca Alta en Oaxaca, de la Sierra Madre del Sur en Guerrero y de diferentes sitios en la comunidad de Zimatlán de Álvarez (Martín-Regalado et al. 2012). Lagartija de cuerpo alargado, cola prensil y patas cortas, (Campbell & Frost, 1993). Se distingue de las demás especies de su género por poseer la siguiente combinación de caracteres de escamación y coloración (Bogert y Porter, 1967): superciliar anterior en contacto con la cantoloreal; frontonasal de tamaño grande; cuatro escamas en la primera hilera de temporales; antepenúltima supralabial en contacto con la órbita; un mínimo de seis nucales; 28-31 hileras transversales de dorsales; coloración dorsal en adultos variable, de amarillo verdoso a café claro; seis a ocho bandas transversales oscuras no bien definidas en la región dorsal, las cuales están alineadas a lo largo del tronco; escamas en las labiales, cuello y párpados de color amarillo claro. La máxima longitud hocico-cloaca conocida para un ejemplar de esta especie es de 145 mm (registro del Museo de Zoología, Facultad de Ciencias, UNAM; MZFC).



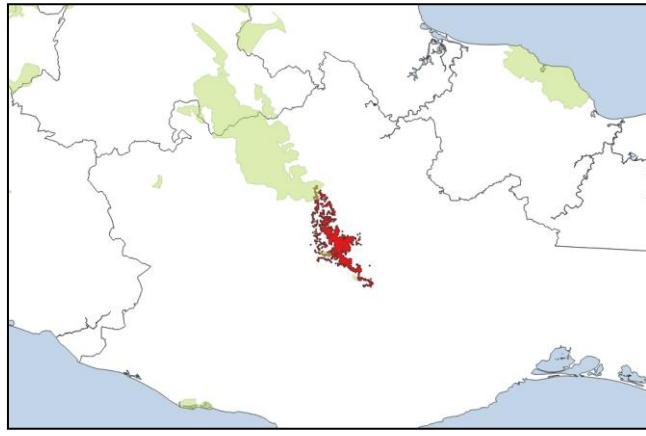
*Abronia mixteca*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

19. ***Abronia montecristoi*: SV-HN:** Santa Ana, Cordillera de Alotepeque-Metapán, Hacienda Montecristo a 2,250 msnm. En El Salvador (Campbell & Frost 1993). Probablemente también se encuentre en Guatemala, originalmente se había descrito para El Salvador (Ariano-Sánchez & Torres-Almazán 2012). Presenta 12 filas ventrales de escamas transversales, amplio contacto entre las superciliares anteriores y la cantoloreal, tres temporales primarios en contacto con la fila posocular (Campbell & Frost, 1993). Color café pálido sin bandas trasversales oscuras (MaCrannie & Wilson, 1999).



*Abronia montecristoi*. Townsend, J.H. & Köhler , G. 2013. *Abronia montecristoi*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

20. ***Abronia oaxacae*: MX:** Endémica de las tierras altas del centro del estado de Oaxaca. Lagartija de cuerpo alargado, cola prensil y patas cortas (Campbell & Frost, 1993). Se distingue de las demás especies de su género por poseer la siguiente combinación de caracteres (Good, 1988): reducción o ausencia de la frontonasal; pérdida de la supralabial posterior; supralabial anterior separada del elemento cantoloreal; un mínimo de cuatro nucales; área de escamas granulares a los lados del cuello muy estrecha y carente de gránulos en el pliegue lateral; la coloración dorsal en adultos varía de café claro a café verdoso con algunas manchas más oscuras que forman de seis a ocho bandas transversales a lo largo del tronco; la coloración ventral es crema immaculado. Los miembros de esta especie alcanzan a medir hasta 117 mm de longitud hocico-cloaca.



*Abronia oaxacae*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

21. *Abronia ochoterenai*: **MX**: Reportada en Santa Rosa, Comitán en el este de Chiapas. Durante un estudio taxonómico realizado por Campbell & Frost (1993) dichos autores evidenciaron que *A. ochoterenai* representaba en realidad un taxón compuesto por tres especies, dos de la cuales fueron nombradas en dicho trabajo (*A. leurolepis* y *A. smithi*). La siguiente descripción de *Abronia ochoterenai* fue tomada de Campbell & Frost (1993) a partir de la descripción de las dos especies anteriormente confundidas con ésta. Lagartija de cuerpo alargado, cola prensil, y patas cortas. Se distingue de los demás miembros de su género por presentar: 1) superciliares en contacto con la cantoloreal; 2) no menos de 6 nucales; 3) bandas oscuras transversales en el dorso y en la cola en las hembras adultas; 4) tres hileras de temporales; 5) subocular en contacto con la escama inferior de la primera hilera temporal; 6) postmentonal no dividida; 7) tres hileras de preauriculares no imbricadas; adultos con una serie de bandas transversales de color más oscuro que el color de fondo.



*Abronia ochoterenai*. Campbell, J.A. & Muñoz-Alonso, A. 2013. *Abronia ochoterenai*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

22. *Abronia ornelasi*: **MX**: Limitada a las cercanías de la localidad tipo de Cerro Baúl, Oaxaca. Lagartija de cuerpo alargado, cola prensil, y patas cortas (Campbell & Frost, 1993). Se distingue de los demás miembros de su género por poseer la siguiente combinación de características (Campbell, 1984): 1) escamas supranasales muy expandidas, las cuales se juntan en la línea media; 2) seis escamas nucales transversales; 3) 30-33 hileras transversales de escamas dorsales arregladas en líneas paralelas; 4) pliegue lateral bien desarrollado; 5) frontonasal en contacto con la frontal; 6) cuatro temporales anteriores; 7) coloración dorsal en adultos café con un ligero tinte verdoso, estando cada escama bordeada de color café claro, 8) región ventral de las patas de color amarillo. La longitud hocico cloaca conocida en los individuos adultos es de 97 mm.



*Abronia ornelasi*. Campbell, J.A. 2007. *Abronia ornelasi*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

23. *Abronia ramirezi*: **MX**: Localidad tipo de Cerro La Vela en la Sierra Madre de Chiapas (Campbell 1994, 1984). Se distingue de las demás especies de su género por las siguientes características: cuerpo alargado cubierto por 39 o más filas dorsales de escamas, amplio contacto frontonasal-frontal, solo dos supraoculares laterales por lado. Presenta un color café-grisáceo con muchas manchas amarillas en los márgenes posteriores de las escamas dorsales excepto en las áreas ocupadas por diez bandas café oscuro irregulares. En algunas partes presenta un color crema con motas de color café-gris, el área ventral de las extremidades es amarillo brillante (Campbell, 1994).



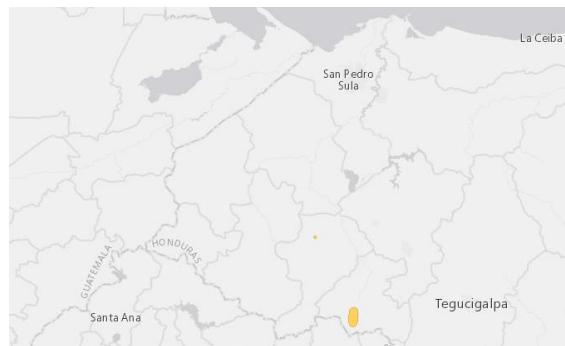
*Abronia ramirezi*. Campbell, J.A. & Muñoz-Alonso, A. 2007. *Abronia ramirezi*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

24. *Abronia reidi*: **MX**: Dos ejemplares en colecciones científicas procedentes del Volcán de San Martín y se ha reportado en la Sierra de Santa Marta en la región de Los Tuxtlas en Veracruz. Lagartija de cuerpo alargado, cola prensil, y patas cortas (sensu Campbell & Frost (1993)). Se distingue de las demás especies de su género por poseer la siguiente combinación de características de escamación y coloración (Werler & Shannon, 1961; Heimes, 2001, personal): de treinta y seis a treinta y siete hileras transversales de dorsales; seis hileras longitudinales de nucales; ventrales laterales expandidas; color dorsal en adultos café oliváceo sin marcas transversales; parte posterior de las escamas temporales de color amarillo intenso; cabeza y cuerpo moderadamente delgado. Longitud máxima conocida hocico-cloaca 100 mm.



*Abronia reidi*. Flores-Villela, O. & Lopez-Luna, M.A. 2007. *Abronia reidi*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 23 June 2015.

25. *Abronia salvadorensis*: **HN**: Morazán, Cordillera de Nahuaterique, Cantón Palo Blanco (Campbell & Frost 1993). Presenta 14 filas de escamas transversales ventrales, no hay contacto entre las superciliares anteriores y la cantoloreal, dos temporales primarios en contacto con la fila posocular (Campbell & Frost, 1993). Color café palido con bandas transversales más oscuras (MaCranie & Wilson, 1999).



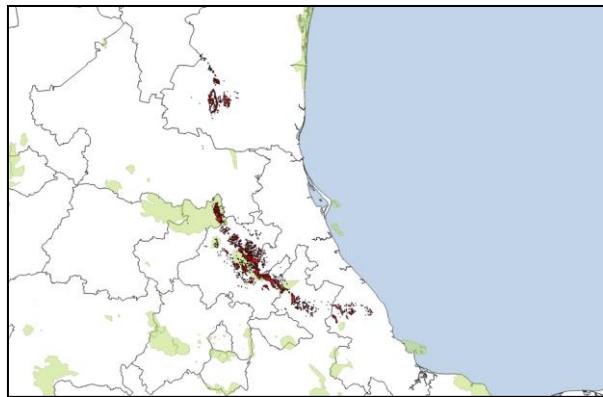
*Abronia salvadorensis*. Wilson, L.D., Townsend, J.H. & Luque, I. 2013. *Abronia salvadorensis*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

26. *Abronia smithi*: **MX**: Endémica del sudeste de la Sierra Madre de Chiapas. Se distingue de las demás especies de su género por las siguientes características: escamas supra-auriculares en forma de espina, doce filas de escamas ventrales longitudinales, las más laterales más anchas que las ventrales adyacentes, una escama fronto-nasal, supranasales no expandidas y cantales discretos. La especie del género a la que más tiene parecido morfológico es *A. ochoterenai*, se diferencia por tener cuatro o cinco temporales primarios en lugar de tres, el subocular está separado del temporal primario inferior, un postmental dividido. Las hembras adultas amarillo-verdes con manchas oscuras, y la región circumorbital es amarillo brillante (Campbell & Frost, 1993).



*Abronia smithi*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

27. *Abronia taeniata*: **MX**: Endémica de la región del sur de Tamaulipas, norte de Querétaro y hacia el sur hasta Hidalgo, Noreste de Veracruz y el Norte de Puebla. Su límite sureño es La Joya, Veracruz (Flores-Villela y Schmidt, com. pers. 2015). Lagartija de cuerpo alargado, cola prensil, y patas cortas (Campbell & Frost, 1993). Se distingue de las demás especies de su género por poseer el siguiente conjunto de características de escamación y coloración (Good, 1988): 31-34 hileras transversales de dorsales; un mínimo de seis hileras de nucales; osteodermos dorsales sólo en la mitad anterior del cuerpo; coloración dorsal en adultos amarillo brillante, amarillo verdoso, o verde grisáceo; de 6 a 8 bandas transversales negras en el dorso alineadas a lo largo del tronco; en ejemplares juveniles las bandas antes mencionadas son más evidentes. Los ejemplares de esta especie llegan a medir hasta 138 mm de longitud hocico-cloaca.



*Abronia taeniata*. La distribución se muestra en rojo y las áreas naturales protegidas se muestran en color verde (Marín et al. 2015)

28. *Abronia vasconcelosii*: **GT**: Reportada de la porción este de la meseta de Guatemala (entre Argueta y Chichicastenango) y poblaciones cerca de la ciudad de Guatemala. Parte superior del cuerpo verde, regiones inferiores amarillas (Bocourt, 1871 en Campbell & Frost, 1993). Una escama posmental no dividida.



*Abronia vasconcelosii*. Acevedo, M., Ariano-Sánchez, D. & Johnson, J. 2013. *Abronia vasconcelosii*. The IUCN Red List of Threatened Species. Version 2015.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 June 2015.

**Situación de las Abronias con base en la IUCN y el Environmental Vulnerability Score**  
**(Wilson et al. 2013; Wilson & McCranie 2004)**

EO = extent of occurrence; EVS = Environmental Vulnerability Score

Species	Distribution	IUCN Status / EVS Status	Population size	Pop. Trend	Threats
<i>Abronia anzuetoi</i>	Guatemala (EO 24 km <sup>2</sup> )	VU D2	Only known from type series	Unknown	Some extraction of wood for fire, no known major threats
<i>Abronia aurita</i>	Guatemala EO 400 km <sup>2</sup> )	EN B1ab(iii)	Only known in one location	Unknown	Deforestation for agricultural purposes
<i>Abronia bogerti</i>	México	DD EVS = 18/18	Only known from holotype, found 50 years ago	Unknown	Deforestation and degradation of montane forests
<i>Abronia campbelli</i>	Guatemala (EO 18 km <sup>2</sup> )	CR B1ab(iii,v)	approximately 500 individuals (Ariano and Torres 2010)	Decreasing	Habitat loss and degradation, oak trees affected by chemical pollution, pet trade
<i>Abronia chiszari</i>	México (EO< 5,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 17/18	Only three specimens currently known	Decreasing	Deforestation, conversion of forested areas to agricultural use, timber extraction
<i>Abronia deppii</i>	México (EO< 5,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 16/18	Naturally rare species	Decreasing	Forest fragmentation and loss, pet trade
<i>Abronia fimbriata</i>	Guatemala (EO 1,500 km <sup>2</sup> )	ENB1ab(iii)	Uncommon	Unknown	Habitat loss and ornamental exportation crops of leatherleaf ( <i>Chamaedaphne calyculata</i> ) to Japan and Europe, pet trade
<i>Abronia frosti</i>	Guatemala (EO 0.7 km <sup>2</sup> )	CR B1ab(iii)	Known from one location	Decreasing	Habitat loss
<i>Abronia fuscolabialis</i>	México (EO< 5,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 18/18	Only known from six specimens found so far	Decreasing	conversion of forested areas to agricultural use
<i>Abronia gaiophantasma</i>	Guatemala (EO 750 km <sup>2</sup> ),	EN B1ab(iii)	Uncommon	Unknown	Habitat loss and ornamental exportation crops of leatherleaf ( <i>Chamaedaphne calyculata</i> ) to Japan and Europe
<i>Abronia graminea</i>	México (EO< 3,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 15/18		Decreasing	Deforestation and degradation of forests, conversion of forest to agricultural use; pet trade
<i>Abronia leurolepis</i>	México	DD EVS = 18/18	Only known from a single individual collected in the 1930s	unknown	Deforestation, conversion of forest to agricultural use;
<i>Abronia lythrochila</i>	México	LC EVS = 17/18	Common within its restricted distribution	Stable	Deforestation, conversion of forest to agricultural use, occasionally pet trade
<i>Abronia martindelcampoi</i>	México (EO< 5,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 15/18	All individuals are in fewer than 5 locations, moderately abundant there	Decreasing	Deforestation, conversion of forest to agricultural use; forest fires; occasionally pet trade

Species	Distribution	IUCN Status / EVS Status	Population size	Pop. Trend	Threats
<i>Abronia matudai</i>	Guatemala, México (EO< 5,000 km <sup>2</sup> )	EN B1ab(iii) EVS = 15/18	Only known from 2 localities en GT y one en MX	Decreasing	Deforestation, conversion of forest to agricultural use;
<i>Abronia meledona</i>	Guatemala (EO < 900 km <sup>2</sup> )	EN B1ab(iii)	Only one location known	Unknown	Habitat loss and pet trade
<i>Abronia mitchelli</i>	México	DD EVS = 18/18	Only known from a single specimen	Unknown	
<i>Abronia mixteca</i>	México (EO< 20,000 km <sup>2</sup> )	VU A2cd+4cd, B1ab(iii) EVS = 18/18	Only known from two locations	Decreasing	Deforestation, pet trade
<i>Abronia montecristoi</i>	El Salvador, Honduras (EO 800 km <sup>2</sup> )	EN B1ab(iii) EVS= 15 /18	Only known from two locations	Decreasing	Habitat loss
<i>Abronia oaxacae</i>	México (EO< 20,000 km <sup>2</sup> )	VU B1ab(iii) EVS = 17/18	distribution severely fragmented, moderately common	Decreasing	conversion of forest to agricultural use
<i>Abronia ochoterenai</i>	México, Guatemala	DD EVS = 16/18	Only known from 2 especímenes collected en the 1930s	Unknown	Deforestation, conversion of forest to agricultural use;
<i>Abronia ornelasi</i>	México	DD EVS = 18/18	Only known from a few especímenes (last one found en mid 1980s)	Unknown	Deforestation, conversion of forest to agricultural use;
<i>Abronia ramirezi</i>	México	DD EVS = 18/18	Only known from a single specimen collected 1993		Deforestation, conversion of forest to agricultural use;
<i>Abronia reidi</i>	México	DD EVS = 18/18	Only known from a few especímenes	Unknown	Canopy species, highly depending on tall trees -> deforestation como the main threat
<i>Abronia salvadorensis</i>	Honduras (EO 100-200 km <sup>2</sup> )	EN B1ab(iii) EVS = 16/18	Only known from fewer than ten specimens	Decreasing	Habitat loss and degradation
<i>Abronia smithi</i>	México (EO< 2,000 km <sup>2</sup> )	LC EVS = 17/18	Relatively uncommon, only known from a few localities	Stable	Deforestation, conversion of forest to agricultural use
<i>Abronia taeniata</i>	México (EO< 2,000 km <sup>2</sup> )	VU B1ab(iii) EVS = 15/18	Distribution severely fragmented, en suitable habitat a common species	Decreasing	Deforestation, conversion of forest to agricultural use, pet trade
<i>Abronia vasconcelosii</i>	Guatemala (EO 2,500 km <sup>2</sup> )	VU B1ab(iii)	Known from ten locations where it use to be common 20 years ago	Decreasing	Habitat loss and degradation

**Relación de Unidades de Manejo para la Conservación de la Vida Silvestre (UMA)  
con manejo de especies del género Abronia en México**

Nombre de la UMA/UMA name	Clave de Registro/Code	Estado/State	Especies/Species	Año de registro/Year of registration	Tipo de Manejo/Management	
Bosques de Xoxocotla	DGVS-UMA-EX-3642-VER	Veracruz	<i>Abronia graminea</i>	14-Dec-10	Extensivo	
EL Valle de Galera	DGVS-UMA-EX-3661-VER	Veracruz	<i>Abronia graminea</i>	14-Jul-11	Extensivo	
CH'IX (ABRONIA)	CHIKIN	DGVS-PIMVS-CR-IN-1575-DF/12	Distrito Federal	<i>Abronia lythrochila, Abronia campbellii</i>	17-Dec-12	Intensivo
REPRIAIVES		DGVS-CR-IN-894-MEX/06 (PIMVS)	Estado de México	<i>Abronia deppii, Abronia graminea,</i>	11-Apr-06	Intensivo
FAUMUSEO		SEMARNAT-UMA-IN-CR-0056-VER/06	Veracruz	<i>Abronia graminea</i>	29-May-06	Intensivo
TLILCALCO		SEMARNAT-UMA-IN-CR-0129/VER/11	Veracruz	<i>Abronia graminea</i>	2-Feb-11	Intensivo
MOLOCH		DGVS-PIMVS-CR-IN-1354-DF/11	Distrito Federal	<i>Abronia graminea</i>	---	Intensivo

**Especies del género Abronia identificadas en comercio internacional en páginas web**

Especies	Precio/ejemplar	Sitio WEB	Comentarios
<i>Abronia graminea</i>	200 – 993 USD (405 – 720 EUR)	www.terrastrik.com, www.bakwaterreptiles.com, www.terrastrikladen.de, faunaclassified.com, teguTalk.com, pangeareptile.com www.facebook.com/JurasicPets	Vendedores de México, Suecia, Holanda, Reino Unido de la Gran Bretaña, ofrecidos en sitios web de Alemania, EUA y redes sociales.
<i>Abronia martindelcampoi</i>	717 – 1657 USD (520-1202 EUR)	Reptilienserver.de, Undergroundreptiles.com, faunaclassifieds.com	Vendedores de Reino Unido de la Gran Bretaña, ofrecidos en sitios web de Alemania y EUA.
<i>Abronia deppii</i>	405 – 1360 USD (300 - 1,000 EUR)	www.lafermetropicale.com, www.terrastrik.com, reptilepetsdirect.com	Vendedores de Alemania y Holanda ofreciendo en sitios web de Francia, Alemania y EUA.
<i>Abronia campbelli</i>	2,000 USD (1,500 EUR)	Faunaclassifieds.com, www.terrastrik.com	Vendedores y sitios web de EUA
<i>Abronia lythrochila</i>	600 - 1,500 USD (450 - 1,500 EUR)	Faunaclassifieds.com, <u>www.terrastrik.com</u>	Vendedores de Alemania Holanda, y la República Checa, ofreciendo en sitios web de Alemania y EUA
<i>Abronia smithi</i>	2025 - 2500 USD (1500 EUR)	Emsworthreptiles.com	Vendedores y sitios web de Reino Unido de Gran Bretaña
<i>Abronia taeniata</i>	828 – 1103 USD (600 – 800 EUR)	www.terrastrik.com, lonestarreptilesyndicate.com	Vendedores de Suecia Holanda Reino Unido de la Gran Bretaña y Estados Unidos ofreciendo en sitios web de Alemania y EUA
<i>Abronia sp.</i>		<u>www.terrastrik.com</u>	Vendedores franceses ofreciendo ejemplares en el sitio web de Alemania
<i>Abronia mixteca</i>	4,000 USD 950 EUR	reptilienserver.de	Vendedores y sitios web de Alemania
<i>Abronia vasconcelosii</i>		<u>www.terrastrik.com</u>	Hamm Reptile show
<i>Abronia fimbriata</i>	2,800 EUR/ pair	<u>www.terrastrik.com</u>	Hamm Reptile show
<i>Abronia gaiophantasma</i>		<u>www.terrastrik.com</u>	Hamm Reptile show

Adicionalmente, Wagner (2008c) nota varias ofertas de *Abronia* spp en sitios web japoneses; sin embargo, los detalles no están disponibles.