

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

Seventeenth meeting of the Conference of the Parties
Johannesburg (South Africa), 24 September – 5 October 2016

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

To list species of the genus *Abronia* endemic to El Salvador, Guatemala and Honduras in Appendices I and II, as follows:

- I. The species *Abronia anzueto* Campbell & Frost, 1993; *Abronia campbelli* Brodie & Savage, 1993; *Abronia fimbriata* Cope, 1884; *Abronia frosti* Campbell, Sasa, Acevedo & Mendelson, 1998; and *Abronia meledona* Campbell & Brodie, 1999, in Appendix I:
 - a) in accordance with Resolution Conf. 9.24, Annex 1, criterion A (i), (ii), (iii), (v), on the grounds that populations are very small and a decline has been observed in the number of individuals as well as in the extent and quality of their habitat. Each subpopulation is very small; most individuals are concentrated during one or more stages of their lives and they are highly vulnerable due to intrinsic or extrinsic factors;
 - b) in accordance with Resolution Conf. 9.24, Annex 1, criterion B (i), (ii), (iii) and (iv), on the grounds that these animals have a very limited, fragmented range, a range found to have diminished, as has the extent and quality of their habitat as well as the number of individuals, subpopulations and recruitment; and
 - c) in accordance with Resolution Conf. 9.24, Annex 1, criterion C (ii) on the grounds of a marked decline in population size due to a loss of habitat and high extraction rate for trade, combined with high vulnerability.
- II. The species *Abronia aurita* Cope, 1869; *Abronia gaiophasma* Campbell & Frost, 1993; *Abronia montecristoi* Hidalgo, 1983; *Abronia salvadorensis* Hidalgo, 1983, in Appendix II:
 - a) in accordance with Resolution Conf. 9.24, Annex 2 a, criterion A, on the grounds that trade in the species must be regulated to prevent it becoming eligible for listing in Appendix I in the near future.
- III. The species *Abronia vasconcelosii* Bocourt, 1871, in Appendix II:
 - b) in accordance with Resolution Conf. 9.24, annex 2 b, criterion A, because as individuals of this species are commercially exploited, they resemble those of other species that will be listed in Appendices I and II. Therefore, it is unlikely that government employees responsible for monitoring who encounter specimens of this species will be able to tell the difference between them.

Annotation:

- a) Zero (0) export quota for wild specimens.
- b) Zero (0) export quota for specimens bred in other countries that are not the species' countries of origin.

These listings are requested because the majority of the species have very small populations or subpopulations, very limited habitats and none of the countries of origin has authorized the legal export of breeding stock for any of the listed species.

B. Proponent

Guatemala*

C. Supporting statement

1. Taxonomy

- 1.1 Class: Sauropsida
1.2 Order: Squamata
1.3 Family: *Anguidae*
1.4 Genus: *Abronia* (Wiegmann 1828)

1.5.1. Species of Guatemala.

A. anzueto Campbell & Frost 1993, *A. aurita* Cope 1869, *A. campbelli* Brodie & Savage 1993, *A. fimbriata* Cope 1884, *A. frosti* Campbell, Sasa, Acevedo & Mendelson 1998, *A. gaiophasma* Campbell & Frost, 1993, *A. meledona* Campbell & Brodie 1999, *A. vasconcelosii* Bocourt 1871.

1.5.2. Shared species of Guatemala, Honduras and El Salvador.

A. montecristoi Hidalgo, 1983.

1.5.3. Shared species of El Salvador and Honduras.

A. salvadorensis Hidalgo, 1983.

1.5.3. Shared species of Guatemala and Mexico.

A. litrochila H.M. Smith & Álvarez del Toro, 1963 and *A. matudai* Hartweg & Tihen, 1946, *A. ochoteranai* Martín del Campo, 1939.

1.6 Scientific synonyms: Genus *Abronia* (Jussie 1798) of angiosperms of the family *Nyctaginaceae*.

1.7 Common names: Spanish: *Dragoncitos, Escorpiones Arborícolas*
English: Arboreal alligator lizard
Mam: Yaltunitz

1.8 Code numbers: N/A

2. Overview

This proposal is to list populations of species of the genus *Abronia* endemic to the countries of El Salvador, Guatemala and Honduras in Appendices I and II of the Convention.

The *Abronia*s are small species of endemic lizards in the *Anguidae* family that live in the pine-oak and cloud forests of northern Mesoamerica, from southern Tamaulipas to south-eastern Honduras (Campbell and Frost 1993). In Guatemala, there are eight endemic species: *A. anzueto*, *A. aurita*, *A. campbelli*, *A. fimbriata*, *A. frostii*, *A. gaiophasma*, *A. meledona* and *A. vasconcelosii* (Daniel Ariano - Sánchez and

* 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.

Lester Meléndez, 2009). The species shared by Guatemala, Honduras and El Salvador is *A. montecristoi* (Köhler 2003), and the species shared by Honduras and El Salvador is *A. salvadorensis* (Campbell & Frost 1993). With few exceptions, these species are only known via a few specimens from the type locality or its immediate vicinity (Campbell and Frost 1993).

There is little information about these species, but the work necessary to gather it is under way. For the time being, its habitat has been seriously disturbed, fragmented or destroyed by human activity, and these animals are also illegally collected for sale on the international market.

Currently, they are only protected because they are on the *Lista de Especies Amenazadas de Guatemala (LEA)* [List of Threatened Species of Guatemala] (CONAP 2009) and *Listado Oficial de Flora and Fauna Amenazados o en Peligro de Extinción* [Official List of Flora and Fauna that are Endangered or Threatened with Extinction] (Reptiles) of El Salvador. Therefore, as they do not have international status, their trade, all illegal, goes unnoticed. We hope that their listing in CITES Appendices I and II will drastically reduce their trade and allow the establishment of specific programs for management, habitat conservation and breeding.

3. Species characteristics

3.1 Distribution

1. *A. anzueto*, Campbell & Frost, 1993. GT. Endemic to the southern slopes of Volcán de Agua, Department of Escuintla, in south-central Guatemala (Campbell & Frost 1993). It has an elevational range of 1,219 to 2,286 m.asl (Wilson and Johnson 2010), in a patch of remaining forest of approximately 24 km² (D. Ariano, personal communication, 2012).
2. *A. aurita* Cope, 1869. GT. Endemic to the highlands of the Sierra de Xucaneb in the Department of Alta Verapaz (M. Acevedo, pers. comm., 2012; Köhler 2003). It can be found at elevations of 2,000 to 2,660 m.asl (Wilson and Johnson 2010), with an extent of occurrence of approximately 400 km².
3. *A. campbelli* Brodie & Savage, 1993. GT. Endemic to eastern Guatemala, in Potrero Carrillo, Department of Jalapa (Köhler 2003, Wilson and Johnson 2010, Ariano and Torres 2010). It can be found at elevations of 1,800 to 1,900 m.asl (Köhler 2003, Wilson and Johnson 2010, Ariano and Torres 2010), with an extent of occurrence of 18 km².
4. *A. fimbriata* Cope, 1884. GT. Endemic to the mountains of east-central Guatemala (Sierra de Xucaneb, Sierra de las Minas, Sierra de Chuacús and extreme eastern Sierra de los Cuchumatanes), in the Department of Alta Verapaz, (Köhler 2003; Ariano 2010; Wilson and Johnson 2010; M. Acevedo, pers. comm., 2012). It can be found at elevations of 1,400 to 2,100 m.asl, in an area of approximately 1,500 km², specifically in 5 localities.
5. *A. frosti*. Campbell, Sasa, Acevedo & Mendelson, 1998. GT. Endemic to the north-eastern mountains of Guatemala, in Sierra de los Cuchumatanes, (Köhler 2003, Wilson and Johnson 2010, Ariano *et al.* 2011). Specimens have been collected at elevations between 2,800 and 2,900 m.asl (Köhler 2003, Wilson and Johnson 2010, Ariano *et al.* 2011). The extent of occurrence is 0.7 km² in forest remnants (D. Ariano, pers. comm., 2012).
6. *A. gaiophantasma* Campbell & Frost, 1993. GT. Endemic to the mountains of central-eastern Guatemala in Sierra de las Minas. (Franzen and Haft 1999, Köhler 2003, Wilson and Johnson 2010). It occurs at elevations of 1,600 m to 2,560 m.asl (Franzen and Haft 1999, Köhler 2003, Wilson and Johnson 2010), with an extent of occurrence of approximately 750 km².
7. *A. meledona* Campbell & Brodie, 1999. GT. Endemic to the mountains of south-eastern Guatemala, in Cerro Miramundo, in the Department of Jalapa. (Köhler 2003, Wilson and Johnson 2010). It can be found at elevations of 2,200 m to 2,630 m (Köhler 2003, Wilson and Johnson 2010), with an extent of occurrence of 900 km², restricted to the top of the mountain.
8. *A. vasconcelosii* Bocourt, 1871. GT. Found on the central plateau of Guatemala, on Cerro Alux, Department of Sacatepéquez. (M. Acevedo, pers. comm., 2012), at an elevational range of 2,000 to 2,200 m (Köhler 2003, Wilson and Johnson 2010). It is the most

widespread of the species in the country. The extent of occurrence is estimated to be 2,500 km².

9. *A. montecristoi* Hidalgo, 1983, SV/GT/HN. Endemic to the Montecristo National Park, at the border of El Salvador, Honduras and Guatemala and at Quebrada Grande in western Honduras. (Köhler 2003). Recently found in Guatemala. Originally, it had only been described for El Salvador (Ariano-Sánchez & Torres - Almazán 2012). This animal has been collected between 1,370 and 2,250 m (Köhler 2008, Wilson and Johnson 2010), only in the localities mentioned.
10. *A. salvadorensis* Hidalgo 1983. SV/HN. Morazán, Cordillera de Nahuaterique, Cantón Palo Blanco in El Salvador, (Campbell & Frost 1993). Sierra de Montecillos and Sierra de Opalaca in Honduras (Köhler 2003).

3.2 Habitat

These species primarily inhabit cloud forests, montane rain forests and low, moist montane forests, in pine-oak habitats, with an elevational range of 1,200 to 3,000 m.asl, being primarily associated with oak trees covered in epiphytes, such as lichens, bromeliads and orchids. They are arboreal lizards that primarily live in the tree canopy at an elevation above 40 metres. Occasionally, individuals descend and can be found beneath pieces of tree bark or sitting in the open (Köhler 2003).

3.3 Biological characteristics

Abronia is a genus of lizards in the family *Anguidae* (Campbell & Brodie 1999) that may have originated from the supercontinent of Laurasia following its division from Pangea (Macey *et al.* 1999). This genus comprises 28 recognized species found from southern Tamaulipas, Guerrero, Mexico to southeastern Honduras (Campbell and Frost 1993). Of these, sixteen species are endemic to Mexico; three species are shared between Mexico and Guatemala (Acevedo 2006); eight species are endemic to Guatemala; one species is shared by Guatemala, Honduras and El Salvador (Ariano-Sánchez & Torres-Almazán 2012) and one species is shared between Honduras and El Salvador (Köhler 2003; Campbell & Frost 1993).

Abronias are diurnal animals, spending most of their lives among the epiphytic plants on the trees they inhabit (Campbell and Frost, 1993). Their prehensile tails are adapted for this environment. All of the species of the *Abronia* genus are considered to be poisonous lizards, given that they have a system of poisonous mandibular glands, although there is no risk to humans (Koludarov *et al.* 2012; Solano-Zavaleta *et al.* 2007; Campbell & Frost 1993 / AC27 Inf.16 2014). They are insectivores. In captivity, they mainly feed on Orthoptera. Their predators are practically unknown, but many snakes and birds are presumed to feed on them.

All *Abronia* species are viviparous, (Campbell, J., and D. Frost. 1993), with a low reproductive rate. In captive breeding of the species *A. vasconcelosii* in 2007 achieved in Guatemala by the Museo de Historia Natural "Jorge Ibarra," the breeding pair mated in late July, and the female was gravid for eight months, giving birth to six young in late March of the next year (L. Meléndez pers. comm.). None of the young survived for more than six months.

A. campbelli mates between August and November, producing an average of 11.8 live offspring per litter with an average size of 35.34 mm and 0.5 g in weight. Offspring have also been obtained in *A. meledona* in February and March (Ariano & Torres 2014).

The behavior of most of the genus *Abronia* is practically unknown. It is reduced to anecdotal observations due, primarily, to insufficient field research. However, reports state that the dominant males of some species, such as *A. anzuetoi*, display territorial and dominant behavior (Ariano & Torres 2013), and *A. campbelli* displays a series of behavioral patterns that constitute a mating ritual, which may last several hours (Ariano & Torres 2013).

3.4 Morphological characteristics

The genus *Abronia* comprises lizards that are approximately 30 cm long from head to tail, with very attractive coloring in bright shades of blue, green, cream, light-brown and black that camouflage them among the epiphyte plants of their habitat. The majority have square scales, arranged in bands. Their

head is more or less flat, as if it were wearing a helmet. Their long prehensile tail serves as a fifth limb used for moving around and anchoring. The coloring of young varies from species to species, but the majority has dark dorsolateral stripes on a light background (Campbell & Frost 1993).

Specific characteristics. (Köhler, 2008).

A. anzueto: Dorsal scales are very lightly pigmented in black.

A. aurita: Dorsal scales are bright green with black pigment.

A. campbelli: 32 to 35 rows of ventral scales, muddy grey to light-brown in colour, the eye area is light (pale) brown to cream.

A. fimbriata: Supranasal scales are connected, with the pairs of internasal scales separated into anterior and posterior; the frontonasal scale is absent.

A. frosti: The dorsal pattern consists of alternating crossbands of yellow and white; there are 12 longitudinal rows of scales and 28 – 32 transversal rows of scales on the dorsum; 33 – 35 transversal rows of scales on the abdomen.

A. gaiophasma: 12 longitudinal rows of scales on the dorsum; brownish-gray scales.

A. meledona: 9 – 11 spinelike supra-auricular scales (above the auricular orifice).

A. vasconcelosii: Scales of the body's dorsum are yellowish-green to bright turquoise with black pigmentation.

A. montecristoi: 5 occipital scales; the 3 primary temporal scales are in contact with the post-ocular scales.

A. salvadorensis: 1 – 3 occipital scales; the 2 primary temporal scales are in contact with the post-ocular scale.

3.5 Role of the species in its ecosystem

Abronias or *dragoncitos* are predators of crustaceans, insects, arachnids and small lizards or skinks (*Scincidae* family) (Koludarov *et al.* 2012) as well as the young of small rodents (pinkies) (pers. comm. – Urbina 2014). In addition, they can contribute in pollinating bromeliads. (AC27 Inf.16 2014).

4. Status and trends

4.1 Habitat trends

These species' ranges are generally quite limited (*A. campbelli* has a range of around 500 oak, *Quercus*, trees) and are greatly pressured in habitats that have been disturbed, severely fragmented or destroyed by human activity (AC27 Inf.16 2014 / Ariano & Torres 2010). Human activities that destroy habitat include: farming practices, export crops, animal husbandry, felling trees for firewood (Ariano *et al.* 2011), pine tree pests, change of land use to establish forest monocultures, installation of communications towers, roadbuilding, land development and similar activities.

According to Ariano-Sánchez (2010), the genus *Abronia* has a potential range in Guatemala of 671,148.16 hectares. Its current range in Guatemala is 282,828.39 hectares, representing 42.14% of its potential historic range (more than 50% of the genus' historic range in the country has been lost due, primarily, to change in land use).

Since Abronias are arboreal species, the loss of habitat caused by felling the trees with which they are associated is detrimental to them. Therefore, we consider it important to mention that in Guatemala, the *Quercus* species – deciduous or live oaks – is highly valued as firewood and in making charcoal.

4.2 Population size

A. anzuetoi (Campbell & Frost, 1993). There is no quantitative data regarding population status and trends.

A. aurita (Cope, 1869). There is no quantitative data regarding population status and trends.

A. campbelli (Brodie & Savage, 1993). The total population size, deduced from a sampling of adults found in remaining trees, was approximately 2.5 individuals per tree with 48% occupation per tree, indicating an estimated 487 adult individuals in a highly fragmented habitat. (Ariano and Torres 2010).

A. fimbriata (Cope, 1884). There is no quantitative data regarding population size and trends for this species. Although this species is rare, it is one of the most distinctive species in Guatemala.

A. frosti (Campbell, Sasa, Acevedo & Mendelson, 1998). There is no quantitative data regarding population size and trends for this species. The population is suspected to be in decline due to the loss of forest habitat (Ariano *et al.* 2011).

A. gaiophasma (Campbell & Frost, 1993). There is no quantitative data regarding population size and trends for this rare species.

A. meledona (Campbell & Brodie, 1999). There is no quantitative data regarding population status and trends.

A. vasconcelosii (Bocourt, 1871). There is no quantitative data regarding population status and trends. This species used to be common in the Cerro Alux, in the Departments of Guatemala and Sacatepéquez. Suspicions are that it is in decline due to the loss of habitat.

A. montecristoi (Hidalgo, 1983). This species is considered to be in decline in Honduras due to the destruction of its habitat; it is better conserved in El Salvador.

A. salvadorensis (Hidalgo, 1983). No data.

4.3 Population structure

No information available.

4.4 Population trends

There is no quantitative data regarding population trends of the different species in this genus. However, owing to the limited geographical ranges and the risk of its habitat being destroyed, most *Abronia* species have been considered among the most endangered species of lizards anywhere in the world. One can assume that some of these species had already become extinct before they could be discovered (Campbell & Frost 1993).

4.5 Geographic trends

As stated at the beginning, these species are found in patches of pine-oak forest, cloud forests, montane rain forest and low, moist montane forests located allopatrically, primarily in the departments of Guatemala, Sacatepéquez, Escuintla, Alta Verapaz, Huehuetenango and Jalapa. In El Salvador, they are found in the Montecristo National Park, a joint entity of the three proponent states, and in Honduras, La Paz and Intibucá. No continuous habitat is available since most are forest remnants. The species with the largest available habitat is *A. vasconcelosii*, with 2,500 km² in the departments of Guatemala and Sacatepéquez. In contrast, *A. frosti* only has 0.7 km². The pine-oak forests where these species live are very fragmented due, primarily, to the rise in export crops, animal husbandry, the advancing agricultural frontier, use of firewood and other causes of forest destruction.

5. Threats

The main threats to these species are the destruction of their habitat and the taking of specimens for the international pet trade. Destruction of the habitat is mainly due to gathering firewood (Ariano *et al.* 2011) and change in land use. Firewood is a source of energy popular with rural communities of proponent states

and is also used in making charcoal for sale. The best wood for these products is considered to be deciduous or live oaks (*Quercus*). According to the “*Mapa de Cobertura Forestal de Guatemala 2006* [2006 Map of forest cover for the territory of Guatemala] and *Dinámica de la cobertura Forestal 2001-2006*” [2001-2006 Dynamics of forest cover], the deforestation rate for the territory of Guatemala was 48,084 hectares per year for the period 2001 – 2006. Other important causes are change in land use and intentional forest fires, primarily for coffee production, animal husbandry, and cultivation of ornamental plants and other agricultural products.

The taking of specimens for international trade is more recent, since around 2006 (USLEMIS data).

6. Utilization and trade

6.1 National utilization

National utilization is restricted to taking specimens for international trade, but this is illegal.

6.2 Legal trade

There are no records of legal trade for these species since authorities from the countries within the range in Central America – El Salvador, Guatemala and Honduras – have not issued any permits to date for them to be taken and exported, due to their national status.

6.3 Parts and derivatives in trade

Not applicable because specimens are marketed as live animals.

6.4 Illegal trade

Any trade in this specimen, whether domestically or internationally, is considered illegal because, due to their national and international status, no harvesting is authorized. These lizards are desired internationally by exotic pet fanciers, primarily in the European and U.S. markets. This practice has caused the number of individuals extracted to exceed the number of individuals added annually to these species’ populations. In Guatemala there are reports that inhabitants of areas near these species’ ranges have received requests for specimens to be captured for international trade; none of these has been with the knowledge of the national authority nor has this institution issued any corresponding trade permits. The same is the case with the species shared with Honduras and El Salvador.

6.5 Actual or potential trade impacts

The endemic nature, state of habitat, reduced population size, absence of captive breeding programs and lack of habitat conservation programs mean that these lizards are considered to be one of the most endangered species in the world. Therefore, the effects of their trade are considered disastrous and threaten the survival of the species.

7. Legal instruments

7.1 National

El Salvador.

- *Ley del Medio Ambiente* [Environment Act]. Chapter II on biological diversity. Arts. 66 – 67.
- *Reglamento de la Ley de Medio Ambiente* [Regulations of the Environment Act]: Chapter II on biological diversity. Arts. 81 – 84 and 92.
- *Ley de Vida Silvestre* [Wildlife Act]: Chapter III on the protection and use of wildlife, Arts. 9 – 20.
- *Ley de Áreas Naturales Protegidas* [Protected Natural Areas Act]: Chapter II on competencies and attributions, Art. 5. on attributions and responsibilities, Art. 6, letters C, E, O, R.
- Penal Code, Arts. 55, 79, 255, 261, 263.

- *Listado Oficial de Flora and Fauna Amenazados o en Peligro de Extinción* (Reptiles) [Official List of Flora and Fauna that are Endangered or Threatened with Extinction (Reptiles)].

Guatemala.

- *Constitución de la República de Guatemala* [Constitution of the Republic of Guatemala]: Article No. 64. Natural Heritage (legal basis for Decree 4-89, *Ley de Áreas Protegidas* [Protected Areas Act]). Article No. 97. Environment and Ecological Balance. Article 119. Government Obligations, c) ...efficient conservation, development and use of natural resources.
- Decree 4-89, *Ley de Áreas Protegidas* [Protected Areas Act].
- Other related laws:
- *Ley General de Caza* [General Hunting Act]. Decree No. 36-04 of 24 November 2004.
- *Reglamento de la Ley General de Caza* [Regulations of the General Hunting Act]. Government Decision No. 84-2007.
- *Calendario Cinegético* [Hunting Calendar]. Resolution 005/2007 of the *Consejo Nacional de Áreas Protegidas* [National Council for Protected Areas] of 27 April 2007.
- List of Threatened Species of Guatemala. Resolution No. SC01/2009 of 02/03/2009.
- National Biological Diversity Policy, Government Decision 220-2011.
- National Biodiversidad Strategy.

Honduras.

- Legislative Decree No. 98 – 2007, *Ley Forestal, Áreas Protegidas y Vida Silvestre* [Forestry, Protected Areas & Wildlife Law]

7.2 International

Guatemala.

- Decree 63-79, Ratification of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. None of the species of the genus *Abronia* is CITES-listed.
- Decree 5-95. Ratification of the Convention on Biodiversity.
- Convention concerning the Protection of the World Cultural and Natural Heritage.

Honduras.

- Decision No.936-13, Regulations governing Procedures for Applying the Convention on International Trade in Endangered Species of Wild Fauna and Flora, according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- The IUCN Red List categorizes them as follows:

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|---|--|
| <i>A. anzueto</i> Campbell & Frost, 1993. | VU - Vulnerable, D2 (IUCN version 3.1) |
| <i>A. aurita</i> (Cope, 1869). | EN - Endangered, B1ab (iii) (IUCN version 3.1) |
| <i>A. campbelli</i> Brodie & Savage, 1993. | CR - Critically Endangered, B1ab (iii, v) (IUCN version 3.1) |
| <i>A. fimbriata</i> (Cope, 1884). | EN - Endangered, B1ab (iii) (IUCN version 3.1) |
| <i>A. frosti</i> Campbell, Sasa, Acevedo & Mendelson, 1998. | CR - Critically Endangered, B1ab (iii) (IUCN version 3.1) |
| <i>A. gaiophasma</i> Campbell & Frost, 1993. | EN - Endangered, B1ab (iii) (IUCN version 3.1) |
| <i>A. meledona</i> Campbell & Brodie, 1999 | EN - Endangered, B1ab (iii) (IUCN version 3.1) |
| <i>A. vasconcelosii</i> (Bocourt, 1871). | VU - Vulnerable, B1ab (iii) (IUCN version 3.1) |

A. montecristoi Hidalgo, 1983.

EN - Endangered, B1ab (iii) (IUCN version 3.1)

A. salvadorensis Hidalgo, 1983.

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8. Species management

8.1 Management measures

There are no procedures for using these species because most are on the List of Threatened Species (LEA) of Guatemala and of El Salvador. Their commercial use is not authorized. In Guatemala, a plan to conserve and reinstate some of the species is being implemented, developed by the NGO Zootropic. In the other two range states (El Salvador and Honduras) the commercial use of these species is likewise not authorized.

8.2 Population monitoring

Since little is known about the species' populational parameters and less about their populations, the possibility of taking specimens is not currently contemplated. Recently (since 2007), the NGO Zootropic has undertaken biological and population studies. Likewise, a short time ago a pilot program for the controlled breeding of *A. campbelli* and *A. frosti* began with the capture and mating of some pairs. This year, the first young were released into remnants of their habitat.

8.3 Control measures

8.3.1 International

The three proponent states have a series of procedures for controlling the trans-border movement of wildlife species, primarily:

- Issuance of supporting documentation for legal shipments of wild species, their products and derivatives (CITES permits, CITES No. and Export Permits for Wild Flora and Fauna, etc., according to the country of origin).
- Control procedures at ports, airports and customs offices.
- Presence of trained CONAP personnel (CITES Management Authority) at Official Commercial Ports of Guatemala.
- Training programs concerning controls on the trade and illegal trafficking of wild species for customs officials, quarantine agencies and police.

8.3.2 Domestic

The regulations for using any species of wild flora and fauna can be found in the wildlife laws of each country (see subparagraph 7.1). For the time being, there are no specific activities to ensure that the procedures for their sustainable use are observed since they are only included on range states' lists of endangered species; moreover, no country authorizes commercial removal. The primary programs that have been implemented cover environmental education, habitat conservation and, in Guatemala, breeding programs for *A. campbelli* and *A. frosti*, conducted by the NGO Zootropic.

8.4 Captive breeding

Currently, no range state has authorized an individual enterprise or company to manage, breed, use or trade in species of this genus since their national status does not allow this. However, in Guatemala, a pilot breeding project has been launched to reinstate the species *A. campbelli* and reintroduce young to the remaining habitat that still exists.

8.5 Conservation

The majority of these species' range does not fall within the Guatemalan Protected Areas System (SIGAP). Of the few protected, *A. campbelli* has 18% within privately-owned areas (D. Ariano, pers.

comm., 2012), *A. fimbriata* and *A. gaiophantasma* are in government and privately-owned protected areas, *A. meledona* is present in a small, privately-owned protected area, *A. montecristoi* is in the Parque Nacional de Montecristo and *A. vasconcelosii* is present in several areas of various types. Conservation programs need to include: protection, administration and management of habitat, better information about the species' range, numbers, population trends, ecology and threats.

According to Ariano-Sánchez (2010), there is a total of 219,725.51 ha. of conservation gaps identified for the genus *Abronia* in Guatemala, representing 77.69% of the genus' current range in the country, and consisting of 19,550 forest fragments. Of note is the fact that the ranges of the species *Abronia anzuetoii*, *A. campbelli* and *A. frosti* are completely outside the SIGAP. Therefore, actions to conserve their remaining habitat are a priority (Ariano-Sánchez 2010).

Six species of the genus *Abronia* endemic to Guatemala are included in the Criteria from the List of Threatened Species (LEA), as follows:

- *A. anzuetoii*, *A. campbelli* and *A. frosti*, in Criterion 1, Nearly Extinct. Species that may go unreported for as long as 50 years; used solely for scientific purposes, with priority on research for conservation.
- *A. fimbriata* and *A. gaiophantasma*, in Criterion 2, Gravely Endangered. Indicates that these are endemic species that may only be used for scientific, research and breeding purposes with priority on conservation.
- *A. aurita*, in Criterion 3, Special Management and Controlled Use. Includes species that are endangered by exploitation or loss of habitat, although their population status allows their regulated use and management. Also included here are regional endemic species. Their use is for scientific purposes, regulated trade, controlled hunting, commercial breeding up to the second generation.
- *A. meledona* and *A. vasconcelosii* are not on any list for protection.

9. Information on similar species

The other species in this genus not found in the three countries of northern Central America are those which belong to southern Mexico.

10. Consultations

Since these are species endemic to Guatemala, Honduras and El Salvador, these countries' authorities have reached an agreement on their conservation as well as on the preparation of this proposal.

11. Additional remarks

12. References

- Acevedo, M. 2006. Anfibios y reptiles de Guatemala: una breve síntesis con bibliografía. En: Cano, E. Biodiversidad de Guatemala. Universidad del Valle de Guatemala.
- Ariano-Sánchez, D. 2010. Identificación de vacíos de conservación y priorización de un portafolio de áreas protegidas potenciales en bosques de montaña de Guatemala utilizando a las lagartijas arborícolas del género *Abronia* (Sauria: Anguidae) como modelo. Tesis de Maestría en Espacios Naturales Protegidos. Universidad Complutense de Madrid-Universidad Autónoma de Madrid-Universidad de Alcalá de Henares, 47pp.
- Ariano – Sánchez, D., M. Torres & A. Urbina. (2011) Rediscovery of *Abronia frosti* (Sauria: Anguidae) from a Cloud Forest in Cuchumatanes Highlands in Northwestern Guatemala: Habitat Characterization and Conservation Status. En Conservation, *Herpetological Review*, 2011, 42(2), 196–198.
- Ariano – Sánchez, D., M. Torres & A. Urbina (2009). *Mapas de Distribución: A. anzuetoii, A. campbelli, A. fimbriata, A. frosti, A. gaiophantasma y A. meledona.*

- Ariano – Sánchez, D.&M. Torres. (2010) Rediscovery of *Abronia campbelli* (Sauria: Anguinae) from a Pine-Oak Forest in Southeastern Guatemala: Habitat Characterization, Natural History, and Conservation Status. En *Herpetological Review*, 2010, 41(3), 290–292. 2010. By Society for the Study of Amphibians and Reptiles.
- Ariano, D. y L. Meléndez. 2009. Arboreal Alligator lizards in the genus *Abronia*: Emeralds from the cloud forests of Guatemala. *Reptiles and amphibians: conservation and natural history* 16(1): 25-27.
- Autoridad Científica CITES de México (CONABIO), (2014). Estado de Conservación, uso, Gestión y Comercio de las Especies del Género *Abronia* que se distribuyen en México. Documento AC27 Inf.16. Mayo 2014.
- CITES. 2010. Sitio web oficial. www.cites.org
- Congreso de la República de Guatemala. 1989. Ley de Áreas protegidas, Decreto No. 4-89. 24 pp.
- Congreso de la República de Guatemala. 1995. Convención sobre Diversidad Biológica, Decreto 5-95.
- CONAP. Libros de Registro de Empresas Reproductoras y Comercializadoras de Vida Silvestre. Consejo Nacional de Áreas Protegidas. Guatemala, 1990 – 2009.
- CONAP (2009). Lista de Especies Amenazadas de Guatemala. Documento Técnico No. 67 (02/2009). 2ª. Ed. Revisada, Guatemala, marzo 2009. 120 p.
- CONAP (2007). Guía para Cazadores y Calendario Cinegético Ilustrado. Consejo Nacional de Áreas Protegidas. Guatemala, noviembre 2007. Reglamentos, Normativos y Procedimientos 23 (07-2007).
- CONAP (2011). Política Nacional de Diversidad Biológica. Acuerdo Gubernativo 220-2011. Consejo Nacional de Áreas Protegidas. Guatemala. Políticas, Programas y Proyectos No. 13 (01-2011). 41 pp.
- CONAP (2008). Manual de Procedimientos del Departamento de Vida Silvestre. 2da. Edición Revisada, Guatemala, diciembre 2008. 152 p.
- CONAP (2009). Base de Datos del Departamento de Unidades de Conservación. Consejo Nacional de Áreas Protegidas. Guatemala, 2009.
- Daily Mail Reporter (2009). Real-life video nasty: Customs officials discover 3 rare lizards smuggled inside cassette box. UK 12/07/2009. Copia digital. www.dailymail.co.uk/news/article-1233257
- Daniel Ariano Sánchez. (2010) Identificación de vacíos de conservación y priorización de un portafolio de áreas protegidas potenciales en bosques de montaña de Guatemala utilizando a las lagartijas arborícolas del género *Abronia* (Sauria: Anguinae) como modelo. Trabajo de Fin de Máster, Máster en Espacios Naturales Protegidos. España, 2010.
- DecDetail.FOIA. (2014). Datos de Exportaciones de *Abronia* durante el periodo 2009 – 2013. Mayo 2014. Copia digital.
- DOI-ITAP (2014). Información de Cargamentos GT – EEUU. Abril 2014 Empresas. Copia digital.
- El Financiero (2014) Mexicano es detenido en Alemania por tráfico de especies. En Segmento Sociedad. 21/05/2014. Copia digital. elfinanciero.com.mx.
- Gunter Köhler. (2008). *Reptiles of Central America*. 2a. Edición. Offenbach: Herpeton Verlag, 2008. ISBN 3-936180-28-8. Pags. 52 – 64.
- IUCN. 2001. The IUCN Red List of threatened species, categories & criteria (version 3.1). <http://www.iucnredlist.org/search/details.php/44192/summ>.
- IUCN. Draft Status html. Especies de Guatemala, Honduras y El Salvador:
- Abronia anzuetoj*: <http://www.iucnredlist.org/details/full/203012/0>;
- Abronia aurita*: <http://www.iucnredlist.org/details/full/203013/0>
- Abronia campbelli*: <http://www.iucnredlist.org/details/full/203014/0>
- Abronia fimbriata*: <http://www.iucnredlist.org/details/full/203015/0>
- Abronia frosti*: <http://www.iucnredlist.org/details/full/29479/0>
- Abronia gaiophantasma*: <http://www.iucnredlist.org/details/full/203016/0>
- Abronia lythtrochila*: <http://www.iucnredlist.org/details/full/63680/0>

Abronia matudai: <http://www.iucnredlist.org/details/full/63682/0>

Abronia meledona: <http://www.iucnredlist.org/details/full/203017/0>

Abronia montecristoi: <http://www.iucnredlist.org/details/full/20/0>

Abronia vasconcelosii: <http://www.iucnredlist.org/details/full/203019/0>

USLEMIS data (2014). Datos de Exportaciones de Abronias de Guatemala durante los años 2006 - 2012.
Mayo 2014. Copia digital.

Redes de tráfico en Guatemala y vínculos internacionales

En Guatemala se tienen indicios de algunas redes de tráfico que contratan a comunitarios en las áreas de distribución de las especies. En 2010 un grupo de investigadores que estudiaban la distribución potencial de las distintas especies de *Abronia* en Guatemala, contactaron a un comunitario que tenía capturadas alrededor de 30 especímenes de *A. campbelli*. Luego de dialogar con el mismo, esta persona accedió a liberarlas y aportó información de la red de tráfico.

Según los datos aportados, esta está compuesta por personas extranjeras que les encargan los especímenes y cuando ya tiene una considerable cantidad, los vuelven a contactar para que sean entregados. El pago lo realizaron a través de transferencias electrónicas. Se logró montar un operativo entre fuerzas de seguridad nacional (División de Protección a la Naturaleza – DIPRONA-), el Ministerio Público a través de la Fiscalía de Delitos Contra el Ambiente y personal del CONAP. Se pretendía capturar al traficante, pues se tenía información de que acudiría a la aldea Potrero Carrillo en una avioneta, sin embargo no se hizo presente, se cree que posiblemente pudo ser avisado por otro comunitario y el operativo no tuvo éxito.

Posteriormente, en el año 2013 se tuvo conocimiento que nuevamente un comunitario de la misma aldea (Potrero Carrillo, Jalapa, Guatemala) estaba colectando especímenes a solicitud de una persona extranjera. Se interpuso una denuncia ante el Ministerio Público, pero cuando los cuerpos investigadores del país identificaron a la persona que las colectaba, esta ya no tenía especímenes en su poder. Actualmente el Ministerio Público mantiene bajo vigilancia a esta persona y espera a que inicie las actividades extractivas para poder capturarla y tener medios de prueba en su contra.

El número de causa de la denuncia ante el Ministerio Público es el M0003/2013/517. Dicha denuncia ha sido enriquecida con datos proporcionados por científicos extranjeros. Tales datos consisten en correos electrónicos en los que indican en el país, otros puntos de extracción ilegal de *Abronia*s (Alta Verapaz, Baja Verapaz). Así como nombres de probables colectores ilegales. Según estos correos, el destino de estos especímenes son países como Estados Unidos y España.

En agosto 2014, se tuvo contacto con personal de U.S. Fish and Wildlife Service, ya que se tiene conocimiento de personas que publican en Facebook especímenes de diversas *Abronia*s, incluyendo *Abronia campbelli*. El objetivo de contactar a la U.S. Fish and Wildlife Service es darle seguimiento a estas personas que posiblemente están envueltas en la red de tráfico internacional. Dentro de las personas que publican abiertamente la tenencia de *Abronia*s, están Raúl González (*Abronia campbelli* y *Abronia lytrochila*), Björn Fischbach (*Abronia campbelli*). El grupo en Facebook que publica estas especies se denomina "ALLIGATOR LIZARDS (Gerrhonotus, Elgaria, *Abronia*, Barisia, etc.)".

Decomisos internacionales

El 12 de julio de 2009, se publica en internet (<http://www.dailymail.co.uk/news/article-1233257/Real-life-video-nasty-Customs-officials-discover-3-rare-lizards-smuggled-inside-cassette-box.html>) la noticia de *Abronia*s decomisadas en el aeropuerto de Gatwick que viajaban de Guatemala hacia República Checa. Estos especímenes iban escondidos dentro de dos casetes de VHS. En ese momento según la nota, los especímenes eran valorados en € 1,000.00 cada pareja.

Posteriormente, el 21 de mayo de 2014 se publica en internet (ElFinanciero.com.mx) que un ciudadano mexicano es detenido en Frankfurt por el tráfico ilegal de 55 tortugas, 30 *Abronia*s, cuatro víboras cornudas y cinco iguanas de cola espinosa. El traficante viajaba desde la ciudad de México hacia Barcelona, España e hizo escala en Frankfurt, Alemania. Según el avalúo del decomiso, todos los reptiles tenían un valor de 85 mil dólares.

Los precios reportados en las páginas Web de reptiles van desde los € 300.00 a los € 750.00, dependiendo de la edad y la especie (tuatera.com 2014).

ALGUNOS DATOS DE COMERCIO INTERNACIONAL:

Los principales reportes de comercialización de estas especies, tanto de México como de Guatemala, se incluyen en la tabla presentada abajo. Las fuentes principales de los datos son del USLEMIS data, DecDetail.FOIA, DOI-ITAP y algunos otros reportes en diarios de México y Reino Unido.

| FECHA | ESPECIE | CANT. | PAIS DE REPORTE | PAIS DE DESTINO | PAIS DE ORIGEN | PRECIO | FUENTE |
|------------|-------------------------|-------|-----------------|-----------------|----------------|------------|--|
| 2006 | <i>Abronia graminea</i> | 13 | US | Desc. | MX | | USLEMIS data |
| 2007 | <i>Abronia spp</i> | 28 | US | DE | MX * | | USLEMIS data |
| 2008 | <i>Abronia graminea</i> | 10 | US | DE | MX | | USLEMIS data |
| 2009 | <i>Abronia graminea</i> | 18 | US | Desc. | MX | | USLEMIS data |
| 2010 | <i>Abronia spp</i> | 15 | US | Desc. | MX * | | USLEMIS data |
| 2011 | <i>Abronia graminea</i> | 14 | US | Desc. | MX | | USLEMIS data |
| 2012 | <i>Abronia graminea</i> | 15 | US | Desc. | MX | | USLEMIS data |
| | | | | | | | |
| 2009 | <i>Abronia spp</i> | 63 | US | FR, DE | MX * | | DecDetail.FOIA |
| 2010 | <i>Abronia spp</i> | 27 | US | ES,FR,DE | MX * | | DecDetail.FOIA |
| 2011 | <i>Abronia spp</i> | 23 | US | FR, DE | MX / GT | | DecDetail.FOIA |
| 2012 | <i>Abronia spp</i> | 54 | US | UA,DE,SE | MX / GT | | DecDetail.FOIA |
| 2013 | <i>Abronia spp</i> | 8 | US | DE,CH,CZ | Desc. | | DecDetail.FOIA |
| | | | | | | | |
| 2010 | <i>Abronia spp</i> | 1 | US | MX | GT | | DOI-ITAP |
| 2011 | <i>Abronia spp</i> | 1 | US | Desc | GT | | DOI-ITAP |
| 2012 | <i>Abronia spp</i> | 1 | US | Desc | GT | | DOI-ITAP |
| | | | | | | | |
| 04/12/2009 | <i>Abronia spp</i> | 3 | UK | CZ | GT | £ 1,000.00 | www.dailymail.co.uk |
| 21/05/2014 | <i>Abronia spp</i> | 30 | DE | DE | Desc | | Elfinanciero.com.mx |

MX *, las especies podrían ser originarias de México y/o de Guatemala, porque el tráfico de estas especies va hacia ese país.

Desc. Desconocido.