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

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

Interpretation and implementation of the convention

Status of conservation, use, management of and trade in the species of the genus *Abronia*

IDENTIFICATION GUIDE ON THE MORPHOLOGY OF THE GENUS ABRONIA

This document has been presented by Mexico* in relation to agenda item AC28 Doc. 22.4.

1. Background

In order to facilitate the implementation of the Convention, and in anticipation of the inclusion proposal of all species of the genus *Abronia* in CITES Appendices, to be presented by México for consideration of the 17th meeting of the Conference of the Parties (CoP17, South Africa, 2016), the Mexican Scientific Authority (the National Commission on Knowledge and Use of Biodiversity, CONABIO) hired an expert on these lizards as an independent consultant (Biol. Oscar Sánchez Herrera) [1] to develop an identification guide (ID guide).

2. Progress in the development of the ID Guide

The ID Guide is based on previous work from authors that use morphological cues to distinguish species of *Abronia* (Campbell y Frost, 1993; Chippindale *et al*., 1998).

The preliminary results allow distinguishing, through morphologic characteristics, species of the genus *Abronia* from the rest of the lizards from the subfamily Gerrhonotinae, and the Family Anguidae. Specifically, **eight diagnostic characteristics** were identified as the minimum set that any given specimen must present to be identified as a species of *Abronia*.

To achieve identification, the only equipment required is a magnifying glass or lens, and a camera (*i.e.* that of a smartphone) with a screen of at least 3 inches that can allow the detailed examination of the scales; this process requires little handling of the specimens.

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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.*

[1] Among several studies with *Abronia*, together with other specialists, Biol. Sánchez Herrera has research experience on the type localities of *Abronia deppii* (Sánchez-Herrera y López-Forment, 1981) as well as on the description of the lizard *A. martindelcampoi* (Flores-Villela y Sánchez-Herrera, 2003).

2.1. Set of characteristics for the identification of specimens from the genus *Abronia*

The arboreal lizards from the genus A*bronia* have four fully developed limbs, and curved claws (Campbell y Frost, 1993) and are commonly known as arboreal alligator lizards. The young measure around 8-19 cm, while the adults (with fully developed tails) measure around 30-35 cm.

Below is a description of the eight diagnostic characteristics to consider while distinguishing specimens from the *Abronia* genus from those of other genus's or families.

BODY

I. **Presence of a dorsal crease:** The crease is found throughout the specimen's body, between the front and back limbs (**Figure 1, left**; Vitt y Caldwell, 2014 - p. 576), and it separates the dorsal scales from the ventral scales. The crease consists of scales of considerably smaller size (**Figure 1, right.**).

Figure 1. Lateral crease (left) y and the scales that of which it is made (right)[2].

II. **Creaseless neck flank, made up by irregularly arranged scales:** The area between the shoulder and the opening of the ear of the lateral crease is absent of poorly developed, and the scales do not follow defined patterns, of neither vertical nor horizontal type (**Figure 2;** Campbell y Frost, 1993 - pp. 38, 101-111)

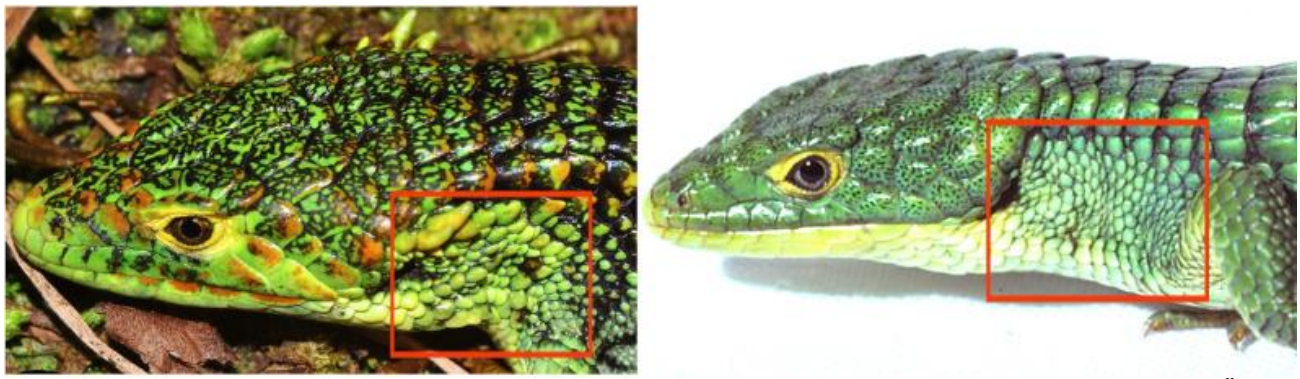

Figure 2. Irregular arrangement of the scales in the flank of the neck, and the absence of a lateral crease[3].

[2] Left: Jason Wagner, *A. martindelcampoi*, http://reptile-database.reptarium.cz/species?genus=Abronia&species=martindelcampoi. Right: Antonia Pachmann, *A. vasconcelosii*, http://www.reptilia.de/Blogeintraege.427.0.html?&tx_felogin_pi1%5Bforgot%5D=1&tx_ttnews%5Bpointer%5D=2&tx_ttnews%5Btt_news%5D=1412&tx_ttnews%5BbackPid%5D=425

[3] Left: Antonia Pachmann, *A. vasconcelosii*, http://www.reptilia.de/uploads/RTEmagicC_000_abronia.jpg.jpg. Right: Richard Sage, *A. graminea*, http://calphotos.berkeley.edu/imgs/512x768/0000_0000/1011/1232.jpeg

III. **Back of the neck composed by 4 to 6 aisles of scales:** The back of the neck has around 4 to 6 longitudinal enlarged scales (**Figure 3;** Campbell y Frost, 1993 - pp. 101-111)

Figure 3. Aisles of enlarged scales, 4 in the image to the left, and 6 in the image to the right[4].

IV. **Prehensile tail.** When alive, and unless the tail is broken or undergoing a regeneration process, the tail is prehensile (**Figure 4**; Smith and Taylor, 1950; Campbell y Frost, 1993; Vitt and Caldwell, 2014 - p. 577).

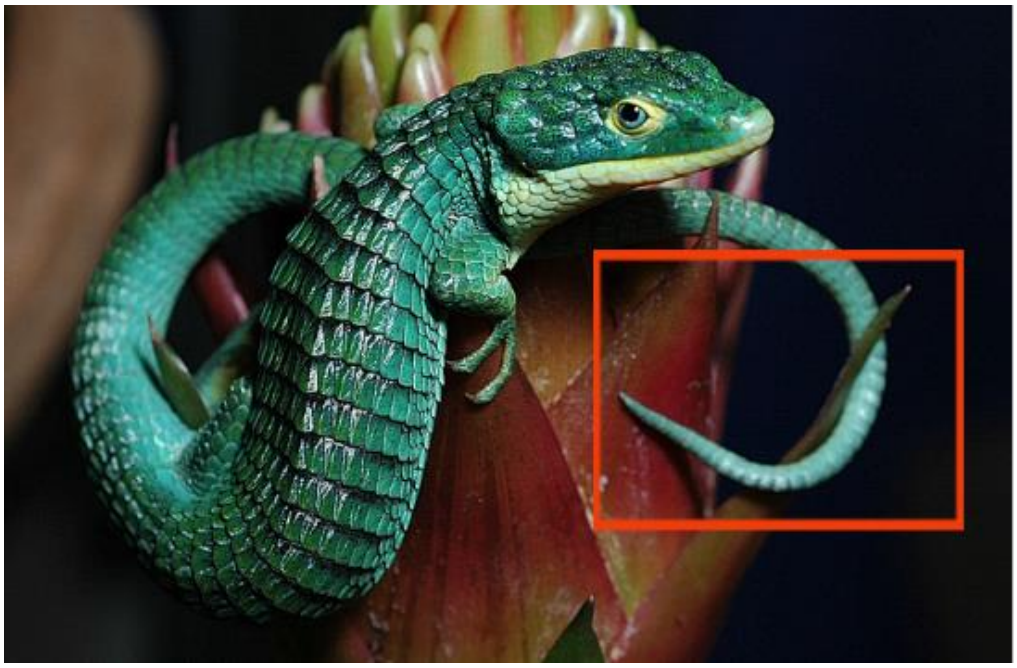

Figure 4. A specimen of *Abronia graminea* holding on to a bromeliad thanks to its prehensile tail[5].

[4] Left: Anonymous, *A. cf. deppii*, https://www.reptiletalk.com.cy/reptile-care/arboreal-alligator-lizard/. Right: Balasz buzas, *A. taeniata*, http://www.arkive.org/bromeliad-arboreal-alligator-lizard/abronia-taeniata/image-G129785.html

[5] Clint Hill, *A. graminea*, http://hawkwardtales.tumblr.com/post/69787008392/arboreal-alligator-lizard-abronia-graminea-by

HEAD

V. **Side of the head with up to 4 scales:** In the line between the eye and the opening of the ear, *Abronias* present a maximum of 4 scales (**Figure 5;** Campbell y Frost, 1993 - pp. 98).

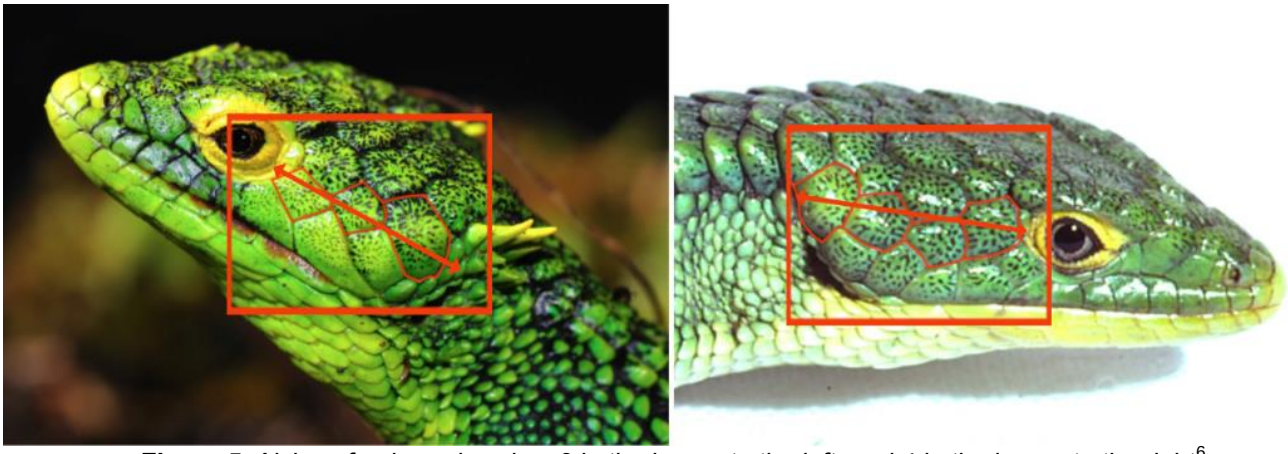

Figure 5. Aisles of enlarged scales: 3 in the image to the left, and 4 in the image to the right[6].

VI. **"Helmet" or triangular-shaped head:** In the extremes of the posterior part of the head, the scales of adults are modified and increased in size, giving the appearance of a triangle or a helmet in some species (**Figure 6;** Campbell y Frost, 1993 - pp. 101-111).

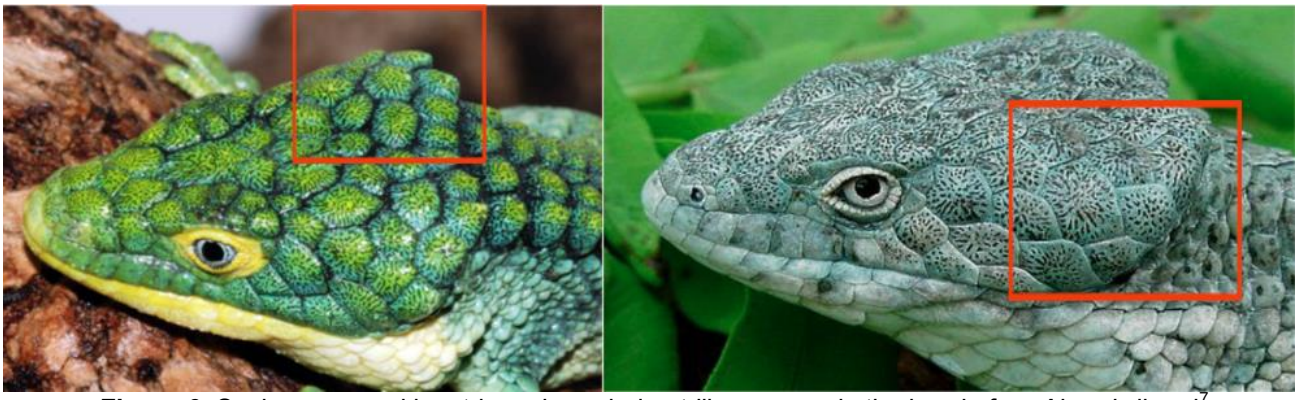

Figure 6. Scales arranged in a triangular or helmet-like manner in the head of an *Abronia* lizard[7].

[6] Left: Antonia Pachmann, *A. vasconcelosii*, http://www.reptilia.de/uploads/RTEmagicC_001_d_abronia.jpg.jpg. Right: Richard Sage, *A. graminea*, http://calphotos.berkeley.edu/cgi/img_query?enlarge=0000+0000+1011+1232

[7] Left: LOB, *A. graminea*, http://www.breeders-expo.de/photos-database/Abronia-graminea-024-m.jpg. Right: Balasz Buzas, *A. mixteca*, http://www.arkive.org/abronia/abronia-mixteca/

VII. **Flattened profile:** When in a relaxed position and seen from below, the profile of the head is flat or depressed; and seen from above, the head is broad. In spite of some adult specimens developing a jowl, this proportion is still appreciable from the lower jaw (**Figure 7,** Smith and Taylor, 1950, p. 194).

Figure 7. From a lateral view, the depression of the head is appreciable, and when seen from above, it is broad[8].

VIII. **Interparietal and frontal scales in contact:** In the back of the head, the interparietal scale (distinguished by a small orifice) is in contact with the frontal scale located immediately in front of it (**Figure 8**; Vitt y Caldwell, 2014 - p.164).

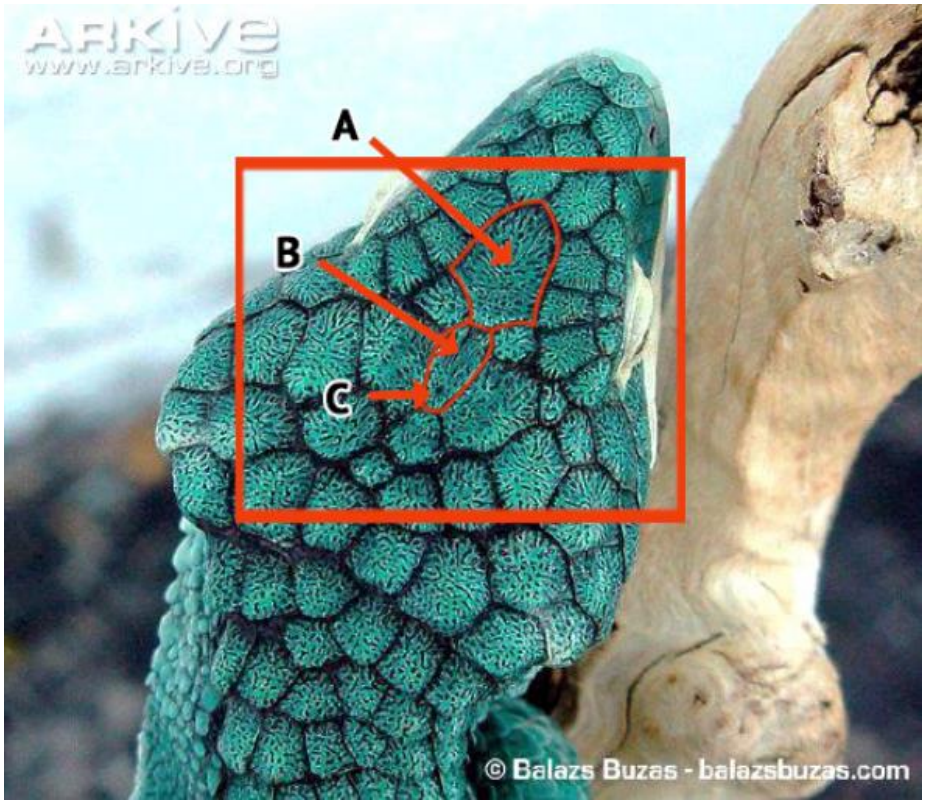

Figure 8. Contact between the frontal scale (A) and the interparietal scale (B); the latter is recognizable by the orifice corresponding to letter C[9].

[8] Left: Petr Myska, *A. graminea*, http://vivanatura.org/Abroniagraminea09.jpg. Right: Balasz Buzas, *A. graminea*, https://www.pinterest.com/pin/447263806714231844/

[9] Balasz Buzas, *A. graminea*, https://www.pinterest.com/pin/447263806714231844/

3. Following steps

Currently, additional sources of information are being analyzed (such as museum specimens, initial descriptions of the species, amongst others), and consultations with specialists of the *National Autonomous University of Mexico* (UNAM) and other national and international academic institutions are being held in order to identify morphological characteristics observable at plain sight, or with little support on equipment, that will allow non-experts to distinguish the 28 known species of the genus *Abronia*.

The information obtained from grey literature and scientific publications will be compiled in a document that will complement the ID Guide.

The final version is expected to be ready by the beginning of 2016, in order to be included as part of the amendment proposal that Mexico will present at CoP17.

4. References

Campbell, J. A. y D. R. Frost. 1993. Anguid lizards of the genus *Abronia*: revisionary notes, descriptions of four new species, a phylogenetic analysis, and key. Bulletin of the American Museum of Natural History, 216: 121 pp.

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