

Inclusion of all species of Alligator Lizards in the genus *Abronia* in Appendix II

Proponents: Mexico and European Union

Summary: The genus *Abronia*, known as alligator lizards or abronias, are medium-sized insectivorous arboreal lizards from Mexico (MX) and northern Central America (El Salvador (SV), Guatemala (GT), and Honduras (HN)). Currently 29 species are recognised; most are endemic to Mexico. There may be as many as four as yet undescribed species¹. They mainly inhabit montane cloud forests where they are associated with epiphytes in the canopy of tall mature oak or pine trees; four species (including an undescribed one) occur in lower altitude tropical forests. They give birth to between one and twelve live young once a year.

Ten of the species are the subject of a second proposal at CoP17 submitted by Guatemala (see Proposal 25).

Most species are only known from small areas, often occurring in single montane forests¹. Seven Mexican species – *A. deppii*, *A. graminea*, *A. lythrochila* (also in Guatemala), *A. mixteca*, *A. oaxacae*, *A. smithi* and *A. taeniata* – have relatively extensive ranges of 400 to 3000km² although habitat is generally fragmented and actual area of occupancy of each species is likely to be considerably smaller than the overall range.

There is little population information for most of the species. *A. lythrochila* (GT, MX) and *A. oaxacae* (MX) have been described as common or moderately common within their ranges. Two studies of *A. graminea* (MX) (which has an extent of occurrence of about 3000km²) at the same site in 2005 and 2015 produced estimates, based on capture of individuals, of approximately 30 and 45 per hectare respectively. The two were based on somewhat different methods and sampled relatively small areas but give an indication of minimum likely population densities in suitable habitat. In 2005 local people stated that the abundance of the species at the site was considerably lower than previously, although it is not clear how reliable this observation is. One study of *A. taeniata* (MX) found it to occur at much lower density than *A. graminea*, although it has also been described as common in suitable habitat.

Of the other species, *A. anzuetoi*, *A. campbelli* and *A. frosti* are known from small patches of forest (0.7 to 24km²) in Guatemala. The population of *A. campbelli* was estimated at 500 adults in 2010, based on the number of mature trees within its range and an estimate of the average occupancy of each tree. *A. fimbriata* (GT), *A. gaiophasma* (GT), *A. martindelcampoi* (MX), *A. meledona* (GT) and *A. vasconcelosii* (GT) are also reported to have limited distributions. The remainder are known from few specimens, sometimes only from single collections. These are: *A. aurita* (GT), *A. bogerti* (MX), *A. chiszari* (MX), *A. cuetzpali* (MX), *A. fuscolabialis* (MX), *A. leurolepis* (MX), *A. matudai* (GT, MX), *A. mitchelli* (MX), *A. montecristoi*, *A. ochoterrenai* (GT, MX) (recently rediscovered²), *A. ornelasi* (MX), *A. ramirezi* (MX), *A. reidi* (MX) and *A. salvadorensis* (HN).

Abronia species are in trade for the exotic pet market. Trade has reportedly increased since the 1990s but recorded trade remains at a low level. Animals command high prices (several hundred USD or more per individual).

Available trade information comes from USA trade data³ and Mexican export records. USA data report that the USA imported just over 230 *Abronia* in the period 2004 to 2013. Most of these (131) were *A. graminea* (MX), virtually all reported as captive-bred, the majority (110) from Mexico. Mexican records show legal export in the period 2005 to 2015 of just under 100 *A. graminea*, of which 55 were declared as captive-bred. The species is advertised for sale online in Europe and USA.

Very small numbers of *A. deppii*, *A. lythrochila*, *A. oaxacae* and *A. taeniata* were also recorded as imported by the USA, none from a range State. Remaining USA imports were not identified to species level; virtually all are of animals reported as captive-bred in non-range States. Mexican records show legal export in the period 2005 to 2015 of small quantities (fewer than ten each) of *A. taeniata*, *A. oaxacae* and *A. ornelasi*, all reported as of wild origin.

Internet searches and observations at trade fairs indicate that some 16 species in addition to *A. graminea* (MX) have been offered for sale, including some that do not have legal authorization for exploitation or export from their native country. Around 130 *Abronia* specimens were confiscated within Mexico in 2005 to 2015. There is evidence of demand online for *A. ochoterrenai*, which has recently been re-discovered⁴. A known trader has been seen in the Guatemala asking locals about *A. campbelli*, *A. frosti* and *A. meledona*. This is

thought to be part of an established connection that is used for the illicit trade of reptiles out of Mesoamerica⁵. The greatest demand is reportedly from European countries and the USA.

Collection for the pet trade has been said to be a cause of concern for a number of species, including *A. campbelli*, *A. deppii*, *A. graminea*, *A. martindelcampoi*, *A. mixteca* and *A. taeniata*, but there is no information on the impact of collection for international trade on any of the species.

There is no authorised collection for trade or exportation of *Abronia* species native to El Salvador, Honduras and Guatemala. In Mexico, trade is regulated for most species, including *A. graminea*.

The range of several of the species overlaps with protected areas, although often only partially. There are ongoing monitoring programmes in Mexico and Guatemala, plus local education and awareness programmes. There are several captive breeding programmes both in Mexico and USA for *A. campbelli*, *A. graminea*, *A. taeniata* and *A. vasconcelosii*, and Guatemala has had some success with captive breeding and re-release of the native species *A. campbelli*, *A. frosti* and *A. meledona*. It appears that captive breeding is relatively straightforward for at least some of the species (*A. graminea* and *A. lythrochila*) and is done by private hobbyists in Europe and the USA.

Of the 29 species, 19 are classified as threatened on the IUCN Red List, two are classified as Least Concern (*A. lythrochila* and *A. smithi*), and seven are classified as Data Deficient due to a lack of information on the population status and trends. *A. frosti* is classified in the IUCN Red List as Critically Endangered (2013). *A. cuetzpali* was only described in 2016 and is yet to be assessed.

Analysis: There is little information on the wild population of most *Abronia* species although a number of them are believed to have very restricted ranges and probably small population sizes. *Abronia* species are sought after and may command high prices, although the specialist market for them – that is of collectors who seek out particular species – is almost certainly small or very small. The recorded legal trade in *Abronia* species is small. Most of it is in the Mexican species *Abronia graminea*, a large proportion of which are individuals reported as captive-bred. Available information indicates that this species is relatively widespread in the wild and can occur, at least locally, at moderately high population densities. It seems unlikely that the level of recorded trade in wild specimens is sufficient for this species to meet the criteria in Annex 2 a of *Res. Conf. 9.24 (Rev. CoP16)*.

A number species other than *A. graminea* are reported in trade, including several for which no legal export from range States is permitted. Volumes in trade are unknown, but available information indicates they are likely to be small or very small. Some species (e.g. *A. campbelli*) may have such small wild populations that collection of a small number of individuals for export might be detrimental; specimens of this species have been confiscated in Mexico (a non-range State) and it is reported to be captive-bred there. It is possible, that some of the species meet the criteria for inclusion in Appendix I (see analysis for Proposal 25). Overall, however, there is insufficient information to determine whether any species of *Abronia* meets the criteria for inclusion in Appendix II in Annex 2 a of the Resolution.

There is a great deal of variation within species, and it can be difficult to distinguish between some species. If it is concluded that some of the species considered here meet the criteria for inclusion in the Appendices then the others would meet the criteria in Annex 2 b of *Res. Conf. 9.24 (Rev. CoP16)* (lookalike).

Reviewers: D. Ariano-Sánchez, J. Campbell, W. Schmidt, J. Janssen and S. Chng.

References:

Information not referenced in the Summary section is from the Supporting Statement.

¹ Campbell, J.A., Solano-Zavaleta, I., Flores-Villela, O., Caviedes-Solis, I.W. & Frost, D.R. (2016) A New Species of *Abronia* (Squamata: Anguidae) from the Sierra Madre del Sur of Oaxaca, Mexico. *Journal of Herpetology* 50(1):149-156.

² Herp.mx (2016) REDISCOVERED! The Lost Dragon, *Abronia ochoterrenai* (May 10th 2016) <https://www.facebook.com/herpmx/>. Viewed on 29th June 2016.

³ Analysis of US Fish & Wildlife Service Law Enforcement Management Information System (LEMIS) data, May 2016.

⁴ Janssen, J. (2016) *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.

⁵ Ariano-Sánchez, D. (2016) *In litt.* to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.