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

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Twenty-first meeting of the Plants Committee
Veracruz (Mexico), 2-8 May 2014

Interpretation and implementation of the Convention

Species trade and conservation

Standard nomenclature

REVISED NOMENCLATURE FOR *ALOE*

1. This document has been prepared by the Scientific Authority of South Africa[*].

2. The attached report (Grace & Klopper) has reference.

   a) On the basis of phylogenetic studies, changes have been made to the genus concept of *Aloe*. Three small genera have been circumscribed from species previously included in *Aloe*: the tree aloes (*Aloidendron*, 6 taxa), the rambling aloes (*Aloiampelos*, 10 taxa) and the unusual Cape endemic *Kumara plicatilis* in a genus of its own. Additionally, four species of the genus *Chortolirion* were included in *Aloe.*

   b) Confusion may arise when traders use either the old or new names. Specimens of these taxa have been exported from South Africa over the past 10 years, in particular *Aloe ciliaris* (now *Aloiampelos ciliaris*), *Aloe tenuior* (now *Aloiampelos tenuior*), *Aloe dichotoma* (now *Aloidendron dichotomum*), *Aloe pillansii* (now *Aloidendron pillansii*), *Aloe ramosissima* (now *Aloidendron ramosissimum*) and *Aloe plicatilis* (now *Kumara plicatilis*).

   c) The Plants Committee is requested to consider the revised nomenclature and recommend that the CITES appendices and checklists be updated accordingly in order to ensure that management authorities are able to accurately regulate all specimens in international trade.

3. This issue is included in the document prepared by the nomenclature specialist of the Plants Committee.

[*] *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.*

(English only / únicamente en inglés /seulement en anglais)

Recommendation to the CITES Plants Committee:
Name changes affecting *Aloe* and related genera

Olwen M. Grace[1] & Ronell R. Klopper[2,3]

[1]Jodrell Laboratory, Royal Botanic Gardens, Kew, Surrey TW9 3DS, United Kingdom

[2]Biosystematics Research & Biodiversity Collections Division, South African National Biodiversity Institute, Private Bag X101, Pretoria 0001, Republic of South Africa

[3]H.G.W.J. Schweickerdt Herbarium, Department of Plant Science, University of Pretoria, Pretoria 0002, Republic of South Africa

Background

The genus *Aloe* L. comprises ± 575 species of leaf-succulents native to the flora of the African continent, the Arabian Peninsula, Socotra Island, and Madagascar, as well as the Seychelles, Mascarene and Comoros islands in the Indian Ocean. Several *Aloe* species occur in the invasive or naturalised flora of the Mediterranean, India, parts of North and South America, the Caribbean and Australia. Like many succulent plants, aloes are collected by enthusiasts and extensively used and traded in horticulture. Unusual and rare species, such as the endemic Madagascan species of *Aloe*, are particularly valuable. Aloes are culturally important throughout their range. Concerns for their conservation are reflected by local and international protection afforded them (Grace 2011).

Twenty-one species of *Aloe* are listed on Appendix I of CITES and the remainder are listed as *Aloe* spp. on Appendix II. The wording for Appendix II is as follows:

***Aloe* spp.** [#4] (Except the species included in Appendix I. Also excludes *Aloe vera*, also referenced as *Aloe barbadensis* which is not included in the Appendices)

#4 All parts and derivatives, except:

a) seeds (including seedpods of Orchidaceae), spores and pollen (including pollinia). The exemption does not apply to seeds from Cactaceae spp. exported from Mexico, and to seeds from *Beccariophoenix madagascariensis* and *Neodypsis decaryi* exported from Madagascar;

b) seedling or tissue cultures obtained *in vitro*, in solid or liquid media, transported in sterile containers;

c) cut flowers of artificially propagated plants;

d) fruits, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genus *Vanilla* (Orchidaceae) and of the family Cactaceae;

e) stems, flowers, and parts and derivatives thereof, of naturalized or artificially propagated plants of the genera *Opuntia* subgenus *Opuntia* and *Selenicereus* (Cactaceae); and

f) finished products of *Euphorbia antisyphilitica* packaged and ready for retail trade.

A single species, *Aloe vera*, is excluded from the CITES Appendices because it is cultivated as a commercial natural product crop and is not known in the wild. There is therefore no perceived risk to the species due to trade. The CITES Checklist for *Aloe* was prepared by Prof Leonard E. Newton (Newton 2001).

Recent taxonomic changes

The Angiosperm Phylogeny Group system places *Aloe* in the family Xanthorrhoeaceae subfamily Asphodeloideae (APG3). The earlier family names Aloaceae and Asphodelaceae continue to be used. The latter was available as a 'bracketed' family in the APG2 system. It has recently been proposed that the family name Asphodelaceae, which predates the name Xanthorrhoeaceae [already included in the list of conserved family names of the International Code of Nomenclature for Algae, Fungi and Plants (McNeill *et al.* 2012)], should be conserved (Klopper *et al*. 2013). If this proposal is successful the correct family name for *Aloe* will be Asphodelaceae. The family name used for *Aloe* (i.e. Xanthorrhoeaceae subfamily Asphodeloideae, or Asphodelaceae) has little bearing on the implementation of CITES regulations. In our opinion the family name Asphodelaceae is more widely acceptable to the general and specialist communities.

On the basis of phylogenetic studies, changes have been made to the genus concept of *Aloe* (Grace *et al*. 2013). Three small genera have been circumscribed from species previously included in *Aloe*: the tree aloes (*Aloidendron*, 6 taxa), the rambling aloes (*Aloiampelos*, 10 taxa) and the unusual Cape endemic *Kumara plicatilis* in a genus of its own. Additionally, four species of the genus *Chortolirion* were included in *Aloe* (Grace *et al*. 2013; Daru *et al*. 2013; Klopper *et al*. 2013). The new combinations are listed in the table below:

Summary of name changes in *Aloe* and related genera relevant to CITES:

	ACCEPTED NAME	RECENT SYNONYMS	CITES APPENDIX
1	***Aloiampelos ciliaris* (Haw.) Klopper & Gideon F.Sm.**	*Aloe ciliaris* Haw.	II
2	***Aloiampelos ciliaris* var. *redacta* (S.Carter) Klopper & Gideon F.Sm.**	*Aloe ciliaris* var. *redacta* S.Carter	II
3	***Aloiampelos ciliaris* var. *tidmarshii* (Schönland) Klopper & Gideon F.Sm.**	*Aloe ciliaris* var. *tidmarshii* Schönland; *Aloe tidmarshii* (Schönland) F.S.Mull. ex R.A.Dyer	II
4	***Aloiampelos commixta* (A.Berger) Klopper & Gideon F.Sm.**	*Aloe commixta* A.Berger	II
5	***Aloiampelos decumbens* (Reynolds) Klopper & Gideon F.Sm.**	*Aloe gracilis* var. *decumbens* Reynolds; *Aloe decumbens* (Reynolds) Van Jaarsv.	II
6	***Aloiampelos gracilis* (Haw.) Klopper & Gideon F.Sm.**	*Aloe gracilis* Haw.	II
7	***Aloiampelos juddii* (Van Jaarsv.) Klopper & Gideon F.Sm.**	*Aloe juddii* Van Jaarsv.	II
8	***Aloiampelos striatula* (Haw.) Klopper & Gideon F.Sm.**	*Aloe striatula* Haw.	II
9	***Aloiampelos striatula* var. *caesia* (Reynolds) Klopper & Gideon F.Sm.**	*Aloe striatula* var. *caesia* Reynolds	II
10	***Aloiampelos tenuior* (Haw.) Klopper & Gideon F.Sm.**	*Aloe tenuior* Haw.	II
11	***Aloidendron barberae* (Dyer) Klopper & Gideon F. Sm.**	*Aloe barberae* Dyer; *Aloe bainesii* Dyer	II
12	***Aloidendron dichotomum* (Masson) Klopper & Gideon F. Sm.**	*Aloe dichotoma* Masson	II
13	***Aloidendron eminens* (Reynolds & P.R.O.Bally) Klopper & Gideon F.Sm.**	*Aloe eminens* Reynolds & P.R.O.Bally	II
14	***Aloidendron pillansii* (L.Guthrie) Klopper & Gideon F.Sm.**	*Aloe pillansii* L.Guthrie;, *Aloe dichotoma* subsp. *pillansii* (L.Guthrie) Zonn.	I
15	***Aloidendron ramosissimum* (Pillans) Klopper & Gideon F.Sm.**	*Aloe ramosissima* Pillans; *Aloe dichotoma* var. *ramosissima* (Pillans) Glen & D.S.Hardy; *Aloe dichotoma* subsp. *ramosissima* (Pillans) Zonn.	II
16	***Aloidendron tongaense* (Van Jaarsv.) Klopper & Gideon F.Sm.**	*Aloe tongaensis* Van Jaarsv.	II
17	***Kumara plicatilis* (L.) G.D.Rowley**	*Aloe plicatilis* (L.) Mill.; *Kumara disticha* sensu Medik.	II
18	***Aloe welwitschii* Klopper & Gideon F.Sm.**	*Haworthia angolensis* Baker; *Chortolirion angolense* (Baker) A.Berger	II
19	***Aloe subspicata* (Baker) Boatwr. & J.C.Manning**	*Haworthia subspicata* Baker; *Chortolirion subspicatum* (Baker) A.Berger	II

	ACCEPTED NAME	RECENT SYNONYMS	CITES APPENDIX
20	***Aloe barendii* Klopper & Gideon F.Sm.**	*Haworthia tenuifolia* Engl.; *Chortolirion tenuifolium* (Engl.) A.Berger; *Aloe tenuifolia* (Engl.) Boatwr. & J.C.Manning (*nom. illegit.*)	II
21	***Aloe jeppeae* Klopper & Gideon F.Sm.**	*Chortolirion latifolium* Zonn. & G.P.J.Fritz; *Aloe aestivalis* Boatwr. & J.C.Manning (*nom. illegit.*)	II

The nomenclatural changes to the genus *Aloe* may impact on the implementation of CITES regulations, because the new names may go unrecognised by officials, despite all species previously in *Aloe* being covered by the original intent. This is of particular concern in the case of *Aloidendron pillansii* (=*Aloe pillansii*) which is listed on Appendix I. Additionally, there may be confusion regarding the four species of *Aloe* previously treated in *Chortolirion.*

Recommendations

We recommend the following measures to clarify the use of names for *Aloe* and related genera by CITES:

1) Add *Aloidendron*, *Aloiampelos*, *Kumara* and four species of *Aloe* with synonymy in *Chortolirion* (18, 19, 20 and 21 above) to the Checklist of CITES Species.
2) Adjust the family used for *Aloe* to Asphodelaceae in the Checklist of CITES Species and Appendices.
3) Change the wording in the CITES Appendices to specify that *Aloe* spp. includes *Aloiampelos* spp., *Aloidendron* spp. and *Kumara plicatilis.*
4) Inform the Parties of the above adjustments.

References

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