

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



Twenty-fifth meeting of the Plants Committee
Online, 2-4, 21 and 23 June 2021

Species specific matters

Maintenance of the Appendices

Orchids checklists

APPENDIX-II ORCHID CHECKLIST

1. This document has been submitted by the Scientific Authority for Flora of the United Kingdom of Great Britain and Northern Ireland.*
2. The context of this document pertains to PC24 Com. 8 (Rev. by Sec.). The UK Scientific Authority and the United Nations Environment Programme – World Conservation Monitoring Centre (UNEP-WCMC) were to prepare a checklist for Orchidaceae, presenting Appendix I and Appendix II species separately.
 - a) This was to be undertaken by generating an output for Orchidaceae from the World Checklist of Selected Plant Families. The output includes accepted names, synonyms and country-level distribution information.
 - b) The dataset for Orchidaceae was provided by The World Checklist of Selected Plant Families. The World Checklist of Selected Plant Families has become an international collaborative programme with more than 150 contributors from 22 countries. The main goal of the World Checklist of Selected Plant Families is to provide high quality peer reviewed baseline data on all accepted taxa included in each family.
 - c) To make the review of proposed changes manageable, a comparison was undertaken between the World Checklist of Selected Plant Families output and the current CITES nomenclature standard references for Orchidaceae.
3. The Appendix I Orchid Checklist was adopted at the 18th CITES Conference of the Parties (Switzerland, 2019). This checklist and the proposed checklist were compiled using the same methodology. The standard reference was accepted as:

Govaerts, R., Caronmel, A., Dhanda, S., Davis, F., Pavitt, A., Sinovas, P. and Vaglica, V. 2019. CITES Appendix I Orchid Checklist. Second Version, Royal Botanic Gardens, Kew, Surrey, and UNEP-WCMC, Cambridge. 32 pp.

* *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.*

An output for Appendix II orchids

4. This document presents the comparison of Appendix II Orchidaceae from the World Checklist of Selected Plant Families and the current CITES nomenclature standard references for Orchidaceae. The data from the World Checklist of Selected Plant Families was accessed on 7 July 2018.
5. The Appendix II Orchid output includes distribution data from PC25 Doc. 32 which contains the orchid checklist for the Republic of Korea. The taxon names were cross-referenced and reconciled with the output.
6. The Appendix II Orchid output lists only the taxa currently covered by a standard reference because all other orchid taxa will, by default, be new names. This document represents a subset of Appendix II Orchids, listing only the taxa currently covered by a standard reference. Therefore, this output concerns the following genera only:

Aerangis	Catasetum	Dracula	Pleione
Aerides	Cattleya	Encyclia	Renanthera
Angraecum	Coelogyne	Laelia	Renantherella
Ascocentrum	Comparettia	Masdevallia	Rhynchostylis
Bletilla	Cymbidium	Miltonia	Rossioglossum
Brassavola	Cypripedium	Miltonioides	Sophronitis
Bulbophyllum	Dendrobium	Miltoniopsis	Vanda
Calanthe	Disa	Phalaenopsis	Vandopsis

7. The current standard references for Orchidaceae are listed in Resolution Conf. 12.11 (Rev. CoP18). If the proposed changes are accepted, the final Appendix II Orchid Checklist would replace the following standard references:
 - a) Roberts, J.A., C.R. Beale, J.C. Benschler, H.N. McGough & D.C. Zappi (comps.) 1995. CITES Orchid Checklist. Volume 1. For the genera: *Cattleya*, *Cypripedium*, *Laelia*, *Paphiopedilum**, *Phalaenopsis*, *Phragmipedium**, *Pleione* and *Sophronitis* including accounts of: *Constantia*, *Paraphalaenopsis* and *Sophronitella*. Kew: Royal Botanic Gardens. 136 pp.
 - b) Roberts, J.A., L.R. Allman, C.R. Beale, R.W. Butter, K.R. Crook & H.N. McGough (comps.) 1997. CITES Orchid Checklist. Volume 2 For the genera: *Cymbidium*, *Dendrobium* (selected sections only), *Disa*, *Dracula* and *Encyclia*. Kew: Royal Botanic Gardens. 300 pp.
 - c) Roberts, J.A., S. Anuku, J. Burdon, P. Mathew, H.N. McGough & A. Newman 2001. CITES Orchid Checklist. Volume 3. For the genera: *Aerangis*, *Angraecum*, *Ascocentrum*, *Bletilla*, *Brassavola*, *Calanthe*, *Catasetum*, *Miltonia*, *Miltonioides*, *Miltoniopsis*, *Renanthera*, *Renantherella*, *Rhynchostylis*, *Rossioglossum*, *Vanda* and *Vandopsis*. Kew: Royal Botanic Gardens. 233 pp.
 - d) Smith, M.J., C. Brodie, J. Kowalczyk, S. Michnowicz, H.N. McGough & J.A. Roberts 2006. CITES Orchid Checklist. Volume 4. For the genera: *Aerides*, *Coelogyne*, *Comparettia*, and *Masdevallia*. Kew: Royal Botanic Gardens. 177 pp.
 - e) Sieder, A., H. Rainer & M. Kiehn 2007. CITES Checklist for *Bulbophyllum* and allied taxa (Orchidaceae). Kew: Royal Botanic Gardens. 408 pp.

*These genera are listed in Govaerts, R., Caramel, A., Dhanda, S., Davis, F., Pavitt, A., Sinovas, P. and Vaglica, V. 2019. CITES Appendix I Orchid Checklist. Second Version, Royal Botanic Gardens, Kew, Surrey, and UNEP-WCMC, Cambridge. 32 pp.

8. The new standard references for orchids in Resolution Conf. 12.11 (Rev. CoP18) would therefore read:

		Taxon concerned	Taxonomic reference
Orchidaceae		Paphiopedilum spp., Phragmipedium spp., Aerangis ellisii, Cattleya jongheana, Cattleya lobata, Dendrobium cruentum, Mexipedium xerophyticum, Peristeria elata and Renanthera imschootiana	Govaerts, R., Caromel, A., Dhanda, S., Davis, F., Pavitt, A., Sinovas, P., & Vaglica, V. (2019). CITES Appendix I Orchid Checklist. Second Version, Royal Botanic Gardens, Kew, Surrey, and UNEP-WCMC, Cambridge. This reference should be used as a guideline when making reference to the names of Paphiopedilum spp., Phragmipedium spp., Aerangis ellisii, Cattleya jongheana, Cattleya lobata, Dendrobium cruentum, Mexipedium xerophyticum, Peristeria elata and Renanthera imschootiana. This reference can be found on the website of the Royal Botanic Gardens, Kew, UK at " goo.gl/M26yL8 ".
Orchidaceae		All orchid species except: Paphiopedilum spp., Phragmipedium spp., Aerangis ellisii, Cattleya jongheana, Cattleya lobata, Dendrobium cruentum, Mexipedium xerophyticum, Peristeria elata and Renanthera imschootiana	Dhanda, S., Caromel, A., Govaerts, R., Pavitt, A., Davis, F. & Bullough, L.A. (2021). CITES Appendix II Orchid Checklist, Royal Botanic Gardens, Kew, Surrey, and UNEP-WCMC, Cambridge. This reference can be found on the website of the Royal Botanic Gardens, Kew, UK at " goo.gl/M26yL8 ".

Discussion

9. A detailed list with the proposed changes is available in PC25 Doc 32.2, Annexe 1. The current format is an excel worksheet. If the Appendix II Orchid output is accepted, we intend the checklist to be presented in PDF format. The proposed checklist, including accepted names, synonyms and accepted name locations from the World Checklist of Selected Plant Families is available on: <http://apps.kew.org/wcsp/> (Accessed on 7 July 2018, facilitated by the Royal Botanic Gardens, Kew).
10. The summary of the types of proposed changes is detailed in Table 1. The comparison of the World Checklist of Selected Plant Families Checklist and the current CITES nomenclature standard references for Orchidaceae generated a total of 3694 changes.
11. Careful consideration was given to trade implications due to the significant number of changes proposed. This output was cross-referenced with species in the Review of Significant Trade, species with quotas, and highly traded species as indicated by the CITES Trade Database. The CITES Trade Database was queried for:
 - i) Top 100 Traded Wild Species - Exporter Reported Quantities;
 - ii) Top 100 Traded Wild Species - Importer Reported Quantities;
 - iii) Top 100 Traded Artificially Propagated Species - Exporter Reported Quantities; and
 - iv) Top 100 Traded Art. Prop. Species - Importer Reported Quantities. This analysis is presented in Table 2.

We suggest these potential implications are considered during the review of proposed changes.

Recommendations

12. The Plants Committee is invited to note the work carried out to-date and to:
 - a) review the revisions proposed to the existing standard references for Appendix II Orchids
 - b) recommend the 19th CITES Conference of the Parties to adopt the Appendix II Orchid Checklist; and to revise the list of standard references in Resolution Conf. 12.11 (Rev. CoP18) on Standard nomenclature as proposed in paragraph 8 of this document.

Table 1: A summary of the types of changes between the World Checklist of Selected Plant Families and the current Orchidaceae CITES standard references

Type of change	Definition of change	No. of taxa
New accepted name	accepted names from the World Checklist of Selected Plant Families data that are not in the current standard reference and would become new accepted names	2538
Split from	where a synonym in the current standard reference would become an accepted name based on the World Checklist of Selected Plant Families data	164
Lump into	where an accepted name in the current standard reference would become a synonym based on the World Checklist of Selected Plant Families data	662
Name change	where there is a change in the species epithet between the current standard reference and the World Checklist of Selected Plant Families data (e.g. change in gender, change in hyphenation, ense/ensis, ae/i, added letters)	123
Name change + lump into	where there is a change in the species epithet between the current standard reference and the World Checklist of Selected Plant Families data and this species epithet is a synonym based on the World Checklist of Selected Plant Families data	24
Species not found	where the genus + species combination from the current standard reference is not in the World Checklist of Selected Plant Families data	47
Author not found	where the genus + species combination from the current standard reference is in the World Checklist of Selected Plant Families data but the authors are different between the current standard reference and the World Checklist of Selected Plant Families data	136
Total		3694

Table 2: Species in the Orchidaceae output found in Review of Significant Trade (RST) and top traded species from the CITES Trade Database (CTD)

Taxon name and author	Type of change	Accepted names split from/lumped into	Details of change	RST (blue)/CTD (orange)
<i>Aerangis curnowiana</i> (Finet) H.Perrier	Author not found			<i>Aerangis curnowiana</i>
<i>Aerangis monantha</i> Schltr.	Split from	<i>Aerangis fuscata</i>		<i>Aerangis fuscata</i>
<i>Aerangis seegeri</i> Senghas	Split from	<i>Aerangis pallidiflora</i>		<i>Aerangis pallidiflora</i>
<i>Angraecum arachnites</i> Schltr.	Split from	<i>Angraecum germinyanum</i>		<i>Angraecum germinyanum</i>
<i>Angraecum conchoglossum</i> Schltr.	Split from	<i>Angraecum germinyanum</i>		<i>Angraecum germinyanum</i>
<i>Angraecum ramulicolum</i> H.Perrier	Name change, lump into	<i>Aerangis pallidiflora</i> H.Perrier	to <i>Angraecum ramulicola</i> H.Perrier	<i>Aerangis pallidiflora</i>
<i>Angraecum sesquipedale sesquipedale</i>	New accepted name			<i>Angraecum sesquipedale</i>
<i>Ascocentrum ampullaceum</i> (Lindl.) Schltr.	Lump into	<i>Vanda ampullacea</i> (Roxb.) L.M.Gardiner		<i>Ascocentrum ampullaceum</i>
<i>Ascocentrum curvifolium</i> (Lindl.) Schltr.	Lump into	<i>Vanda curvifolia</i> (Lindl.) L.M.Gardiner		<i>Ascocentrum curvifolium</i>
<i>Ascocentrum miniatum</i> (Lindl.) Schltr.	Lump into	<i>Vanda miniata</i> (Lindl.) L.M.Gardiner		<i>Ascocentrum miniatum</i>
<i>Brassavola cordata</i> Lindl.	Lump into	<i>Brassavola subulifolia</i> Lindl.		<i>Brassavola cordata</i>
<i>Brassavola gillettei</i> H.G.Jones	Split from	<i>Brassavola nodosa</i>		<i>Brassavola nodosa</i>
<i>Brassavola subulifolia</i> Lindl.	Split from	<i>Brassavola cordata</i>		<i>Brassavola cordata</i>
<i>Bulbophyllum hamelini</i> W.Watson	Name change		to <i>Bulbophyllum hamelinii</i> W.Watson	<i>Bulbophyllum hamelini</i>
<i>Calanthe poilanei</i> Gagnep.	Lump into	<i>Spathoglottis plicata</i> Blume		<i>Spathoglottis plicata</i>
<i>Cattleya schroederiana</i> Rchb.f.	Split from	<i>Cattleya walkeriana</i>		<i>Cattleya walkeriana</i>
<i>Cymbidium ensifolium ensifolium</i>	Species not found			<i>Cymbidium ensifolium</i>
<i>Cymbidium faberi faberi</i>	Species not found			<i>Cymbidium faberi</i>
<i>Cymbidium formosanum</i> Hayata	Split from	<i>Cymbidium goeringii</i>		<i>Cymbidium goeringii</i>
<i>Cymbidium goeringii goeringii</i>	Species not found			<i>Cymbidium goeringii</i>
<i>Cymbidium omeiense</i> Y.S.Wu & S.C.Chen	Split from	<i>Cymbidium kanran</i>		<i>Cymbidium kanran</i>
<i>Cymbidium pendulum</i> (Roxb.) Sw.	Lump into	<i>Cymbidium aloifolium</i> (L.) Sw.		<i>Cymbidium aloifolium</i>

Taxon name and author	Type of change	Accepted names split from/lumped into	Details of change	RST (blue)/CTD (orange)
Cymbidium sinense (Andrews) Willd.	New accepted name			Cymbidium sinense
Cymbidium sinense (G.Jacks. & H.C.Andr.) De Wild.	Author not found			Cymbidium sinense
Dendrobium chlorostylum Gagnep.	Lump into	Dendrobium nobile nobile		Dendrobium nobile
Dendrobium hawkesii A.H.Heller	Split from	Dendrobium fimbriatum		Dendrobium fimbriatum
Dendrobium kingianum carnarvonense Peter B.Adams	New accepted name			Dendrobium kingianum
Dendrobium kingianum kingianum	New accepted name			Dendrobium kingianum
Dendrobium kingianum pulcherrimum Rupp	New accepted name			Dendrobium kingianum
Dendrobium moschatum (Banks) Sw.	New accepted name			Dendrobium moschatum
Dendrobium moschatum (Buch.-Ham.) Sw.	Author not found			Dendrobium moschatum
Dendrobium nobile alboluteum Huyen & Aver.	Lump into	Dendrobium nobile Lindl.		Dendrobium nobile
Dendrobium parishii H.Low	New accepted name			Dendrobium parishii
Dendrobium parishii Rchb.f.	Author not found			Dendrobium parishii
Dendrobium phalaenopsis Fitzg.	Lump into	Dendrobium bigibbum superbum Rchb.f.		Dendrobium phalaenopsis
Dendrobium primulinum Lindl.	Lump into	Dendrobium polyanthum Wall. ex Lindl.		Dendrobium primulinum
Dendrobium rhodopterygium Rchb.f.	Lump into	Dendrobium parishii H.Low		Dendrobium parishii
Dendrobium tosaense Makino	Lump into	Dendrobium officinale Kimura & Migo		Dendrobium officinale
Encyclia alata alata	New accepted name			Encyclia alata
Encyclia amanda (Ames) Dressler	Lump into	Encyclia chloroleuca (Hook.) Neumann		Encyclia amanda
Encyclia polybulbon (Sw.) Dressler	Lump into	Dinema polybulbon (Sw.) Lindl.		Encyclia polybulbon
Encyclia radiata (Lindl.) Dressler	Lump into	Prosthechea radiata (Lindl.) W.E.Higgins		Encyclia radiata

Taxon name and author	Type of change	Accepted names split from/lumped into	Details of change	RST (blue)/CTD (orange)
Laelia anceps anceps	New accepted name			Laelia anceps
Laelia purpurata Lindl.	Author not found			Laelia purpurata
Phalaenopsis amabilis amabilis	New accepted name			Phalaenopsis amabilis
Phalaenopsis aphrodite aphrodite	New accepted name			Phalaenopsis aphrodite
Phalaenopsis bellina (Rchb.f.) Christenson	Split from	Phalaenopsis violacea		Phalaenopsis violacea
Phalaenopsis lueddemanniana delicata Rchb.f.	Lump into	Phalaenopsis lueddemanniana Rchb.f.		Phalaenopsis lueddemanniana
Phalaenopsis lueddemanniana ochracea Rchb.f.	Lump into	Phalaenopsis lueddemanniana Rchb.f.		Phalaenopsis lueddemanniana
Phalaenopsis schilleriana immaculata Rchb.f.	Lump into	Phalaenopsis schilleriana Rchb.f.		Phalaenopsis schilleriana
Phalaenopsis schilleriana purpurea (O'Brien) O.Gruss & M.Wolff	Lump into	Phalaenopsis schilleriana Rchb.f.		Phalaenopsis schilleriana
Phalaenopsis schilleriana splendens R.Warner	Lump into	Phalaenopsis schilleriana Rchb.f.		Phalaenopsis schilleriana
Rhynchostylis coelestis (Rchb.f.) A.H.Kent	New accepted name			Rhynchostylis coelestis
Rhynchostylis coelestis Rchb.f.	Author not found			Rhynchostylis coelestis
Rhynchostylis gigantea gigantea	New accepted name			Rhynchostylis gigantea
Vanda tricolor tricolor	New accepted name			Vanda tricolor