

CITES and Slipper Orchids

**An introduction to slipper orchids covered by the
Convention on International Trade in
Endangered Species**

Written by

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INTRODUCTION

The aim of '*CITES and Slipper Orchids*' is to provide an introduction to the slipper orchids on CITES. This includes identification, trade, and the implementation of CITES for slipper orchids.

The guide is primarily intended as a training tool for those working with the Convention, namely CITES Management Authorities, Scientific Authorities and enforcement agencies. However, it is also likely to be of interest to a much wider audience, especially those interested in how CITES works for this commercially important group of plants.

'*CITES and Slipper Orchids*' has been designed so that it can be easily adapted to match the needs of the presenter. We encourage the user to 'tailor' the presentation to suit their audience. In addition to the speaker's notes we have provided a bibliography and list of resources. We hope you find the pack not only a useful tool for developing your presentations, but also a convenient reference book. Please use this training tool and feed back your comments to us so that we can revise future editions to suit your needs.

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HOW TO USE THIS PRESENTATION PACK

This pack consists of slides and speaker's notes for a presentation on the slipper orchids listed in the CITES Appendices. The presentation is divided into three separate topic areas that can be used and adapted according to the background, interests and needs of your audience (Introduction to Slipper Orchids, Slipper Orchids on CITES, Implementing CITES for Slipper Orchids).

A fourth section of additional slides and speaker's notes provides detail on some extra topics that you can add to your presentation, as you think appropriate. The slides have been drafted in general terms with the hope that they will remain current, and therefore of use, for the foreseeable future.

Suggested speaker's notes accompany each slide. These notes are more specific than the slides and reflect information current as of May 2005. Of course, all speakers are encouraged to express their personal style and to use notes as closely or as loosely as they feel comfortable!

We hope that this pack will provide a useful starting point from which you can tailor the slides, and accompanying speaker's notes, to reflect the specific needs of your audience, the length of the presentation and your own personal style. For example, you could illustrate some slides with examples from your own region or institution, or supplement the slides with extra images, such as cartoons, photographs, or newspaper cuttings. Such measures will undoubtedly increase the impact of an individual presentation. In addition, the slides can be printed onto transparency sheets for use with an overhead projector. Alternatively, they can be photocopied from this book, or printed as handouts from the Microsoft® PowerPoint® file on the CD-ROM, and given out to an audience for information.

CD-ROM

The CD-ROM contains the following files:

- 'CITESslipperOrchids.ppt', a Microsoft PowerPoint® presentation containing the slides and speaker's notes. You will need Microsoft PowerPoint 97® (or a more recent version) installed on your computer to view and customise this file.
- 'CITESslipperOrchids.pdf', an Adobe Acrobat® presentation. You cannot modify this presentation but it can be viewed in "full screen" mode using Adobe Reader®. You will need Adobe Acrobat Reader® installed on your computer to view this file (can be downloaded from www.adobe.com).
- 'CITESslipperOrchidsBW.pdf', an Adobe Acrobat® presentation in black and white.
- 'CITESslipperOrchidsPack.pdf', a full copy of the text for the pack including the introduction, references and speaker's notes. This allows you to view the complete electronic document as well as print off part or all of the pack. You will need Adobe Reader® installed on your computer to view this file (can be downloaded from www.adobe.com).

References and Resources

REFERENCES AND RESOURCES

References to the Convention

CITES (2003 and updates). *CITES Handbook*. Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Geneva, Switzerland. This handbook includes the text of the Convention and its Appendices, a copy of a standard permit and the text of the Resolutions and Decisions of the Conference of the Parties.

Wijnstekers, W. (2003 and updates). *The Evolution of CITES, 6th edition*. Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Geneva, Switzerland. The most comprehensive and authoritative reference available to the Convention, written by the CITES Secretary General. Updated on a regular basis.

Rosser, A. and Haywood, M. (Compilers), (2002). *Guidance for CITES Scientific Authorities. Checklist to assist in making non-detriment findings of Appendix II exports*. Occasional Paper of the IUCN Species Survival Commission No. 27. IUCN - The World Conservation Union, Gland, Switzerland and Cambridge, United Kingdom. The first attempt to define guidelines to be used by Scientific Authorities when they make the non-detriment statement required before issuance of a CITES export permit.

The CITES website (www.cites.org) contains a wide variety of information on the Convention: species listed in the Appendices, key addresses and contacts, reports of meetings and working groups, new publications and websites and a diary of events.

Reviews of the Convention

Hutton, J. and Dickson, B. (2000). *Endangered Species, Threatened Convention. The Past, Present and Future of CITES*. Earthscan, London, United Kingdom. A critical assessment of CITES from the sustainable use perspective.

Oldfield, S. (Editor), (2003). *The Trade in Wildlife: Regulation for Conservation*. Earthscan, London, United Kingdom. Critically reviews the international trade in wildlife.

Reeve, R. (2002). *Policing International Trade in Endangered Species. The CITES Treaty and Compliance*. Royal Institute of International Affairs. Earthscan, London, United Kingdom. A detailed study of the CITES compliance system.

CITES Standard References for Plants - Checklists

Carter, S. and Egli, U. (2003). *The CITES Checklist of Succulent Euphorbia Taxa (Euphorbiaceae)*. Second edition. German Federal Agency for Nature Conservation, Bonn, Germany. Reference to the names of succulent *Euphorbia*.

Hunt, D. (1999). *CITES Cactaceae Checklist*. Second edition. Royal Botanic Gardens, Kew, United Kingdom. Reference to the names of *Cactaceae*, the cactus family.

Mabberley, D.J. (1997). *The Plant-Book*. Second edition. Cambridge University Press, Cambridge, United Kingdom. The reference for the generic names of all

References and Resources

CITES plants, unless they are superseded by standard checklists adopted by the Parties as referenced in this list.

Newton, L.E. and Rowley, G.D. (Eggle, U. Editor), (2001). *CITES Aloe and Pachypodium Checklist*. Royal Botanic Gardens, Kew, United Kingdom. Reference for the names of *Aloe* and *Pachypodium*.

Roberts, J.A., Beale, C.R., Benseler, J.C., McGough, H.N. and Zappi, D.C. (1995). *CITES Orchid Checklist. Volume 1*. Royal Botanic Gardens, Kew, United Kingdom. Reference to the names of *Cattleya*, *Cypripedium*, *Laelia*, *Paphiopedilum*, *Phalaenopsis*, *Phragmipedium*, *Pleione* and *Sophranitis* including accounts of *Constantia*, *Paraphalaenopsis* and *Sophranitella*.

Roberts, J.A., Allman, L.R., Beale, C.R., Butter, R.W., Crook, K.B. and McGough, H.N. (1997). *CITES Orchid Checklist. Volume 2*. Royal Botanic Gardens, Kew, United Kingdom. Reference to the names of *Cymbidium*, *Dendrobium*, *Disa*, *Dracula* and *Encyclia*.

Roberts, J.A., Anuku, S., Burdon, J., Mathew, P., McGough, H.N. and Newman, A.D. (2001). *CITES Orchid Checklist. Volume 3*. Royal Botanic Gardens, Kew, United Kingdom. Reference to the names of *Aerangis*, *Angraecum*, *Ascocentrum*, *Bletilla*, *Brassavola*, *Calanthe*, *Catasetum*, *Miltonia*, *Miltonioides*, *Miltoniopsis*, *Renanthera*, *Renantherella*, *Rhynchostylis*, *Rossioglossum*, *Vanda* and *Vandopsis*.

Willis, J.C., revised by Airy Shaw, H.K. (1973). *A Dictionary of Flowering Plants and Ferns*. 8th edition. Cambridge University Press. Cambridge, United Kingdom. For generic synonyms not mentioned in The Plant-Book, unless they are superseded by standard checklists adopted by the CITES Parties as referenced in this list.

UNEP-WCMC (2005). *Checklist of CITES Species*. UNEP-WCMC, Cambridge, United Kingdom. The COP has adopted this Checklist and its updates as an official digest of scientific names contained in the standard references.

CITES Checklists are updated on a regular basis by the CITES Nomenclature Committee. See the CITES website for more information: www.cites.org.

Further References

The following are general references which we hope you will find useful. Be aware that the taxonomy in these works may differ from that prescribed in the adopted CITES references given above. Please inform us of works that you find useful and we will include them in future editions of the guide.

Averyanov, L., Cribb, P., Loc P.K. & Hiep. N.H. (2003). *Slipper Orchids of Vietnam*. Royal Botanic Gardens, Kew, United Kingdom. Comprehensive review with full description of all species of *Paphiopedilum* native to Vietnam, line drawings and extensive use of colour photographs including some habitat pictures.

Bechtel, H. Cribb, P. and Launert, E. (1992). *The Manual of Cultivated Orchid Species*. Third Edition. Blandford Press, London, United Kingdom. Badly in need of updating but still an excellent reference. Has detailed analysis of over 400 genera and 1,200 species with over 860 colour photographs and many fine line drawings.

References and Resources

Braem, G. J., Baker, C.O and Baker, M.L. (1998). *The Genus Paphiopedilum: Natural History and Cultivation, Volume 1*. Botanical Publishers Inc., Kissimmee, Florida, USA.

Braem, G. J., Baker, C.O and Baker, M.L. (1999). *The Genus Paphiopedilum: Natural History and Cultivation, Volume 2*. Botanical Publishers, Inc., Kissimmee, Florida, USA.

Braem, G. J. and Chiron, G.R. (2003). *Paphiopedilum*. Tropicalia, Saint-Genis Laval, France.

Cash, C. (1991). *The Slipper Orchids*. Christopher Helm, London, United Kingdom.

Cavestro, W. (2001). *Le genre Paphiopedilum: taxonomie, répartition, habitat, hybridation et culture*. Rhône-Alpes Orchidées, Lyon, France.

Chen, V.Y. and Song, M. (2000). *Guide to CITES Plants in Trade* (Chinese edition). TRAFFIC East Asia.

CITES (1993-). *CITES Identification Manual, Volume 1 Flora*. Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Geneva, Switzerland. This is the official CITES identification manual. Parties are required to produce sheets for the manual if they successfully propose a species for listing. New identification sheets are added to this ring-bound manual on an ongoing basis. Essential for anyone working on CITES and plants.

Cribb, P. (1997). *Slipper Orchids of Borneo*. Natural History Publications (Borneo), Kota Kinabalu, Malaysia.

Cribb, P. (1997). *The Genus Cyprripedium - A Botanical Magazine Monograph*. Published in association with the Royal Botanic Gardens, Kew. Timber Press, Portland, USA. Comprehensive monograph with full description of all species, line drawings, colour photographs and colour paintings.

Cribb, P. (1998). *The Genus Paphiopedilum (Second Edition) - A Botanical Magazine Monograph*. Published in association with the Royal Botanic Gardens, Kew. Natural History Publications (Borneo), Kota Kinabalu, Malaysia. Comprehensive monograph with full description of all species, line drawings, colour photographs and colour paintings.

European Commission (2002). *Five years of new wildlife trade regulations*. Office for Official Publications of the European Communities, Luxembourg. Booklet on the EU wildlife trade regulations.

Hennessy, E. F. and Hedge, T.A. (1989). *The Slipper Orchids*. Acorn Books, Randburg, RSA.

Gruss, O. (2003). *A Checklist of the Genus Phragmipedium*. Orchid Digest 67[4]: 213-255.

Hilton-Taylor, C. (Compiler), (2000-). *IUCN Red List of Threatened Species*. IUCN-The World Conservation Union, Gland, Switzerland and Cambridge, United Kingdom. The official IUCN list of threatened plants and animals, published as a booklet with CD-ROM. The list is constantly being updated and improved. For the latest version check the Red List website on www.redlist.org.

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- IUCN/SSC Orchid Specialist Group. (1996). *Orchids – Status Survey and Conservation Action Plan*. IUCN, Gland, Switzerland and Cambridge, United Kingdom.
- Jenkins, M. and Oldfield, S. (1992). *Wild Plants in Trade*. TRAFFIC International, Cambridge, United Kingdom. A summary of the last full survey of European CITES plant trade.
- Koopowitz, H. (2000). *A revised checklist of the Genus Paphiopedilum*. Orchid Digest 64[4]: 155-179.
- Lange, D. and Schippmann, U. (1999). *Checklist of medicinal and aromatic plants and their trade names covered by CITES and EU Regulation 2307/98 Version 3.0*. German Federal Agency for Nature Conservation, Bonn, Germany.
- Marshall, N.T. (1993). *The Gardener's Guide to Plant Conservation*. TRAFFIC North America. Unfortunately now dated, although there are rumours of a new edition in the pipeline. This was a very useful guide to plants in trade for horticulture and their sources.
- Mathew, B. (1994). *CITES Guide to Plants in Trade*. Department of the Environment, London, United Kingdom. Now dated, but contains colour photographs and descriptions of the major CITES plant groups controlled and traded in the early 1990s.
- McCook, L. (1998). *An annotated checklist of the genus Phragmipedium*. Orchid Digest Corp., CA, USA. Special publication of the Orchid Digest.
- McGough, H.N., Groves M., Mustard M and Brodie, C. (2004), *CITES and Plants - A User's Guide*. Royal Botanic Gardens, Kew, United Kingdom.
- Pridgeon, A. (2003). *The Illustrated Encyclopedia of Orchids*. David and Charles, Devon, United Kingdom. Over 1100 species illustrated. Outlines the major taxa in trade and of interest to collectors. Full colour photographs. The best general guide to orchids available in print.
- Rittershausen, W. & B. (1999). *Orchids – a practical guide to the world's most fascinating plants*. The Royal Horticultural Society, reprinted 2004. Quadrille Publishing Ltd, London, United Kingdom.
- Sandison, M.S., Clemente Muñoz, M., de Koning J. and Sajeve, M. (1999). *CITES and Plants - A User's Guide*. Royal Botanic Gardens, Kew, United Kingdom. First 'slide pack' of 40 slides and text produced in English, French and Spanish.
- Sandison, M.S., Clemente Muñoz, M., de Koning J. and Sajeve, M. (2000). *CITES and Plants - A User's Guide*. (Chinese Edition). Royal Botanic Gardens, Kew, United Kingdom. Edited by Vincent Y. Chen and Michael Song and produced by TRAFFIC East Asia. The User's Guide in Chinese.
- Schippmann, U. (2001). *Medicinal Plants Significant Trade Study CITES Project S-109. Plants Committee Document PC9 9.1.3(rev.)*. BfN - Skripten 39. German Federal Agency for Nature Conservation, Bonn, Germany. An excellent overview of the trade in CITES-listed medicinal plants.

References and Resources

CD-ROM

CITES (2002-). *CITES training presentations*. CITES Secretariat, Geneva, Switzerland. A range of training presentations produced by the Capacity Building Unit of the CITES Secretariat. These are essential tools for anyone carrying out CITES training.

CITES (2003-). *CD-ROM version of the CITES website (www.cites.org)*. Full version of the CITES website on CD-ROM. Available from the CITES Secretariat.

Web Sites

There are a large number of sites of some interest to CITES workers. Many national CITES authorities have their own dedicated websites. The following are key sites that will lead you to as many other sites as you have time to spend on the Web.

CITES Home Page: Official site of the CITES Secretariat. Includes lists of Parties, Resolutions and other documents. www.cites.org.

European Commission: Information on the Wildlife Trade Regulations that implement CITES within the European Union. www.eu-wildlifetrade.org.

UK CITES Website: Website maintained by the UK CITES authorities that aims to provide information and updates on CITES-related matters as they pertain to the United Kingdom and its Overseas Territories. www.ukcites.gov.uk.

IUCN - The World Conservation Union: The world's largest professional conservation organisation. IUCN brings together governments, non-governmental organisations, institutions and individuals to help nations make the best use of their natural resources in a sustainable manner. www.iucn.org.

IUCN Species Survival Commission: SSC is the IUCN's foremost source of scientific and technical information for the conservation of endangered and vulnerable species of flora and fauna. Specific tasks are carried out on behalf of IUCN, such as the monitoring of vulnerable species and their populations, the implementation and review of conservation action plans and the provision of guidelines, advice and policy recommendations to governments, agencies and organisations regarding conservation and management of species and their populations. www.iucn.org/themes/ssc/.

UNEP - World Conservation Monitoring Centre: The UNEP-WCMC provides information services on the conservation and sustainable use of the world's living resources, and assists others in the development of information systems. Activities include supporting the CITES Secretariat. Information on international wildlife trade and trade statistics may be requested from the Species Programme of UNEP - WCMC. Now an office of the UN based in Cambridge, UK, the Centre's work is an integral part of the United Nations Environment Programme (UNEP), headquartered in Nairobi, Kenya. www.unep-wcmc.org/index.html.

References and Resources

TRAFFIC International: TRAFFIC is a programme of WWF and the IUCN established to monitor the trade in wild plants and animals. The TRAFFIC Network is the world's largest monitoring programme with offices covering most parts of the world. The network works closely with the CITES Secretariat. www.traffic.org.

Earth Negotiations Bulletin: Tracks the major environmental negotiations as they happen. Also provides an extensive archive material and lots of photographs of the meetings. www.iisd.ca.

Plant Name Checking

The following websites are useful for checking plant names that are not found in the standard CITES checklists. Sometimes these names may be of newly described species. If this 'new name' has been used in an application for a CITES permit stating the plant is propagated, the plant should be checked to confirm its identity and to ensure it meets the CITES definition of artificial propagation.

IPNI - The International Plant Names Index: A database of the names and associated basic bibliographical details of all seed plants. www.ipni.org/index.html.

TROPICOS: A nomenclatural database produced and maintained by the Missouri Botanical Garden, USA. mobot.mobot.org/W3T/Search/vast.html.

EPIC – Electronic Plant Information Centre: Brings together all the digitised information on plants held by the Royal Botanic Gardens, Kew. www.rbgekew.org.uk/epic/.

World Checklist of Monocotyledons – Comprises an inventory of taxonomically validated Monocotyledon plant names and associated bibliographic details, together with their global distribution. This database includes a full list of all orchid names. www.kew.org/monocotChecklist/.

Phragweb - A comprehensive source of information on *Phragmipedium* species, including descriptions, line drawings and full colour photographs. www.Phragweb.info.

RHS – The website of the Royal Horticultural Society, useful for checking new hybrid names. www.rhs.org.uk/publications/pubs_journals_orchid_hybrid.asp.

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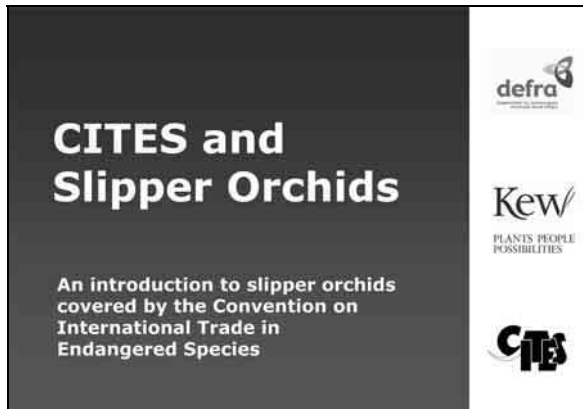
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Slide 1: CITES and Slipper Orchids

The aim of this presentation is to introduce you to the different types of slipper orchids covered by the Convention on International Trade in Endangered Species of wild fauna and flora - CITES - and to address some of the key issues concerning the implementation of the Convention for this important plant group.

Slide 2

What This Presentation Will Cover

- Introduction to slipper orchids
- Slipper orchids on CITES
- Implementing CITES for slipper orchids



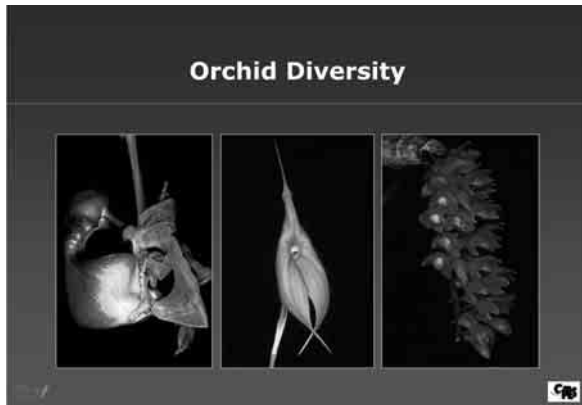
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Slide 2: What This Presentation Will Cover

This presentation will cover the following topics:

- an introduction to slipper orchids;
- slipper orchids covered by CITES;
- implementing CITES for slipper orchids.

[Note to speaker: The slide shows Paphiopedilum callosum.]



Slide 3: Orchid Diversity

Most people have at least a vague idea of what an orchid is. The name orchid often sparks ideas of fascinating flowers, exotic environments and intriguing gifts! However, the plants that most people see represent just a tiny fraction of what is possibly the largest plant group in the world; with over 25,000 species known and an estimated 5,000 species waiting to be discovered. These species are found all over the world, with their major concentration (some 70%) in the tropical rainforests. However, orchids can even be found in very arid areas and in sub-Arctic areas such as Alaska. Subterranean species have even been found in Australia! Their size can range from that of a pencil head to a vigorous two tonne shrub. Also, contrary to popular belief, not all orchids are rare. In the right habitat, some species can occur in very large numbers. Due to their huge variation in size, colour and their exotic appeal, orchids have fascinated plant collectors and growers since the Victorian era.

[Note to speaker: The characteristics that distinguish orchids from other plants are mostly confined to the flowers. They are:

1. *The male and female flower parts are fused, or at least partly fused, to form a structure called the column;*
2. *One of the flower petals is highly modified, often into a landing platform or guide for pollinating insects - called the labellum or lip;*
3. *The pollen is usually bound together forming large masses called pollinia, which are in pairs, 4s, 6s or 8s;*
4. *Orchids produce millions of very small seeds that have no food source for germination and therefore require a fungal associate to aid germination.*

*This slide shows: *Coryanthes macrantha* (left), *Masdevallia veitchiana* (centre) and *Dendrobium secundum* (right).]*

Slide 4



Slide 4: Why Protect Orchids?

Orchids are highly threatened by habitat destruction and, to a lesser degree, over-collection. Although habitat destruction affects all species, over-collecting is a particularly serious threat to those species that are important in trade and can lead to the extinction of a species in the wild within a few years of discovery.

Orchids have evolved intricate pollination strategies that can be easily disturbed through habitat destruction or over-collecting - making them good environmental indicators. Therefore, if we can save orchids and maintain good populations, it is likely that we will be saving many other species in the process. Due to their public appeal, orchids also make good flagship species and have been used to promote the conservation of critical wildlife habitats.

[Note to speaker: This slide shows Phragmipedium besseae.]

**Introduction to
Slipper Orchids**

Slide 6

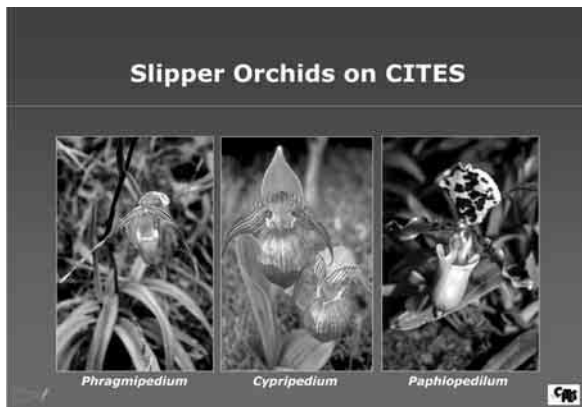


Slide 6: What Are Slipper Orchids?

Slipper orchids are easily distinguished from other orchids by their slipper- or shoe-like flowers. These slipper-like flowers have inspired a range of vernacular names which include Lady's Slipper in Europe, Moccasin Flower in North America and Zapatilla in Latin America. The most important genera of Slipper orchids are *Cypripedium*, *Paphiopedilum* and *Phragmipedium*. All of these genera are in demand for international trade.

The genus *Cypripedium* comprises some 50 species distributed across the northern temperate regions. The genus *Paphiopedilum* consists of some 80 species confined to Southeast Asia, and the genus *Phragmipedium* comprises around 20 species confined to central and South America. Their attractive flowers and relatively small number of species have made these plants highly attractive to orchid collectors and growers.

*[Note to speaker: The slide shows *Phragmipedium besseae* var. *dalessandroi* (left), *Cypripedium parviflorum* (centre) and *Paphiopedilum venustum* (right).]*



Slide 7: Slipper Orchids on CITES

The genera *Paphiopedilum* and *Phragmipedium* are listed on Appendix I of CITES. An Appendix I listing effectively prohibits the trade in wild-collected plants, but allows trade in artificially propagated plants, subject to permit. These two genera are listed on CITES Appendix I as *Paphiopedilum* spp. and *Phragmipedium* spp. This ‘generic listing’ means that newly described species of these genera are automatically included in CITES Appendix I. This ensures the immediate regulation of new species which are vulnerable to non-sustainable trade following their discovery.

The genus *Cypripedium* is listed on Appendix II of CITES. This means that wild and artificially propagated specimens can be traded subject to obtaining the correct permits. However, the majority of range countries (range States in CITES terms) have banned the export of wild-taken *Cypripedium*. In addition, the 25 member countries of the European Union, in their wildlife trade regulations that implement CITES, treats *Cypripedium calceolus* as though it is on Appendix I of the Convention. As a result of these measures it is unusual to find legal wild-collected *Cypripedium* plants in international trade. If legal wild plants are in trade they are usually plants of the commoner North American species that have come from controlled collection or salvage operations.

[Note to speaker: To check the most up-to-date list of the CITES Appendices consult the CITES website www.cites.org. To get more details of the stricter controls implemented by the European Union, log on to the website www.eu-wildlifetrade.org. This slide shows *Phragmipedium longifolium* (left), *Cypripedium himalaicum* (centre) and *Paphiopedilum henryanum* (right).]

Slide 8



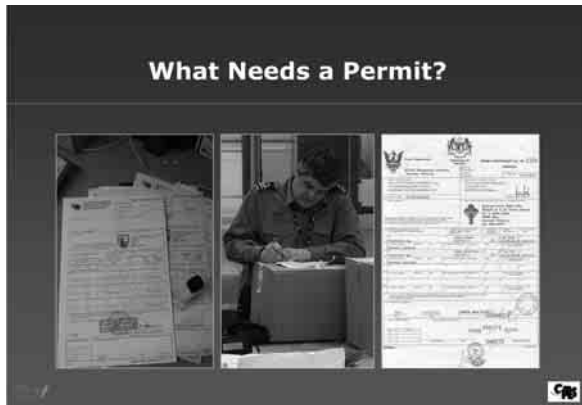
Slide 8: Global Trade in Slipper Orchids

Slipper orchids, namely the genus *Paphiopedilum*, are one of the top 5 most horticulturally important orchid genera. Slipper orchids are traded in large numbers, mainly as living plants of species and man-made hybrids.

The CITES trade data shows that over 660,000 slipper orchids were traded internationally between 1998 and 2002. Almost all of this trade was in artificially propagated material. The recorded trade in wild plants related to specimens of *Cypripedium*.

Between 1998 and 2002, the largest recorded exporters of artificially propagated slipper orchids were Taiwan (Province of China), Indonesia and China. These exporters accounted for over half of all international exports (54%). Other major exporters in the same period were the Republic of Korea, the Netherlands, Thailand, the United States, New Zealand, Japan and Belgium (each exporting more than 10,000 plants).

The largest importer of artificially propagated slipper orchids between 1998 and 2002 was Japan with over half of all imports (56%). Other major importers in the same period were Canada, the Republic of Korea, the United States, Germany, Italy and Switzerland (each importing more than 10,000 plants).



Slide 9: What Needs a Permit?

The simple answer is: everything unless it is exempt!

CITES controls apply to plants, 'alive or dead' and to 'any readily recognisable parts and derivatives'.

This means that it is not just the whole plants that are subject to CITES controls, but also parts of the plants including seeds, cuttings and leaves. Products made from plants may also be subject to CITES controls. If the name of a CITES-listed plant or animal is written on packaging, then the product is considered to contain it and is therefore subject to CITES controls.

For plants listed on CITES Appendix I, the whole plant and all parts and derivatives are controlled - alive or dead. There is only one exemption. Seedling or tissue cultures 'obtained *in vitro*, in solid or liquid media, transported in sterile containers' are exempt. The material need not be in traditional flasks or bottles to be eligible for the exemption – merely in sterile containers. However, it must be of legal origin to fulfil this exemption. We will look in detail at the controls relating to tissue cultures in the next slide.

For plants listed on CITES Appendix II, the plant is controlled 'alive or dead' and so is any readily recognisable part or derivative specified in the appendices. In the case of *Cypripedium* the only parts and derivatives exempted from CITES control are: a) seeds and pollen (including pollinia); b) seedling or tissue cultures obtained *in vitro*, in solid or liquid media, transported in sterile containers; and c) cut flowers of artificially propagated plants.

[Note to speaker: The slide shows CITES permits and a customs officer checking documents.]

Slide 10



Slide 10: Tissue Cultures

Following the listing of *Paphiopedilum* and *Phragmipedium* on Appendix I, the CITES Conference of the Parties (CoP) approved the exemption of tissue cultures of these genera from CITES control. This was a unique exemption – the removal of a ‘readily recognisable part and derivative’ of an Appendix I specimen from control. A number of Parties opposed the exemption; however it was approved by a majority vote. The reason for the exemption was to encourage propagation of these highly sought-after plants in a bid to remove pressure from the wild populations.

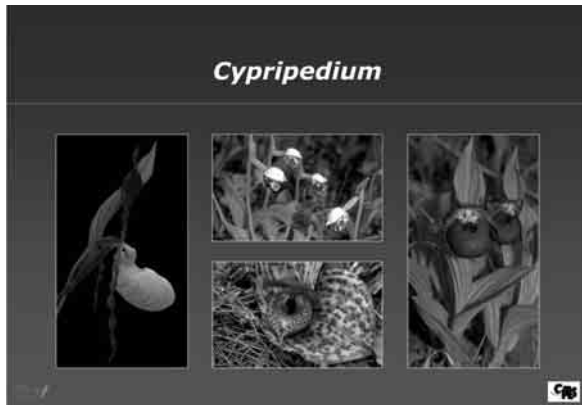
At the time it was thought that such propagation could never be detrimental to the wild populations. However, in recent years this has proven not to be the case. In particular the illegal and unsustainable collection of species endemic to Viet Nam has caused particular concern. A number of countries have expressed concern that the flaked seedling and tissue culture exemption has been used by unscrupulous traders to ‘legalise’ trade in material whose parental stock has been taken illegally from the wild.

The parental stock used to produce tissue cultures should be legally obtained, subject to the laws relating to that species in its country of origin. If this ‘mother stock’ is illegal, then the tissue culture derived from it does not qualify for the exemption from CITES controls. Such tissue culture material may then be subject to confiscation by CITES enforcement authorities.

[Note to speaker: The slide shows sterile seedling cultures in flasks, bags and bottles.]

**Slipper Orchids on
CITES**

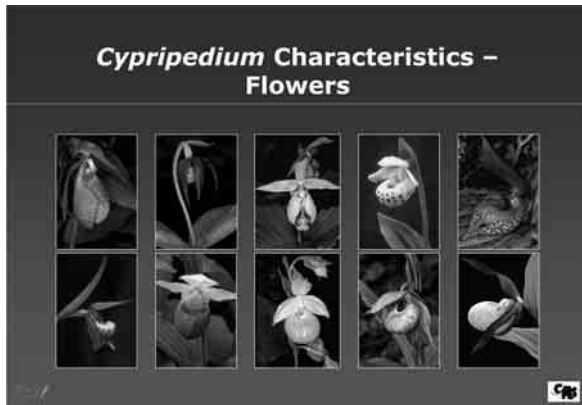
Slide 12



Slide 12: *Cypripedium*

The genus *Cypripedium* consists of some 50 species found in the northern temperate region of Asia, Europe and North America, reaching as far south as Honduras, Guatemala and southern China. They grow in a wide range of habitats from coniferous or mixed deciduous woodlands, to marshes and grasslands. They are terrestrial, with leaves that, in most species, grow fresh from the base each year. The flowers are slipper-like and range in colour from green through white and yellow to red and deep purple. *Cypripedium* species appeal to gardeners in temperate climes as all have some degree of cold hardiness and may be grown outside for at least part of the season.

[Note to speaker: The slide shows *Cypripedium parviflorum* (left), *Cypripedium guttatum* (top centre), *Cypripedium lichiangense* (bottom centre) and *Cypripedium smithii* (right).]



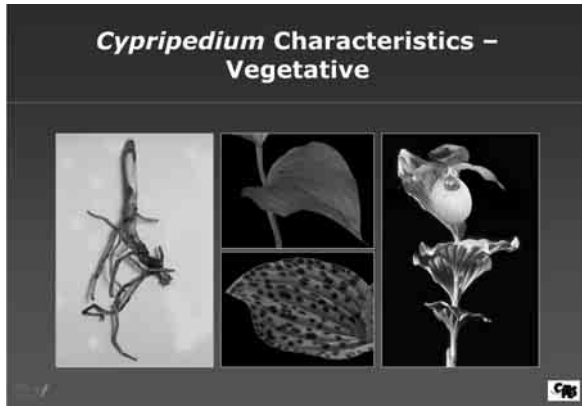
Slide 13: *Cypripedium* Characteristics – Flowers

All *Cypripedium* flowers are slipper-shaped. The flowers can be single to many, with flowers ranging in colour from green to purple-splashed white to golden yellow to purple brown.

The flowers do not fall, but persist on the fruit.

[Note to speaker: The slides shows *Cypripedium acaule* (top left), *Cypripedium palangshanense* (second from left, top), *Cypripedium japonicum* (top centre), *Cypripedium wardii* (second from right, top), *Cypripedium lichiangense* (top right), *Cypripedium arietinum* (bottom left), *Cypripedium reginae* (second from left, bottom), *Cypripedium irapeanum* (bottom centre), *Cypripedium x froschii* (second from right, bottom) and *Cypripedium calceolus* (bottom right).

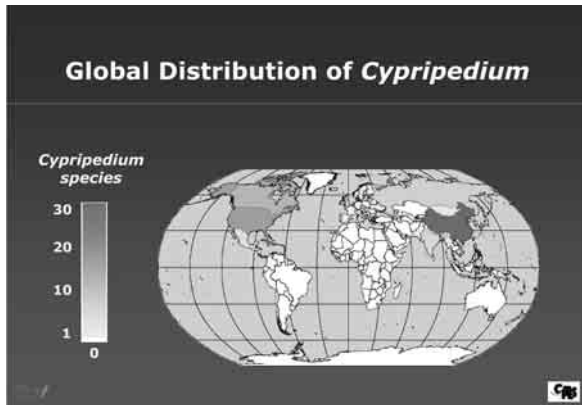
Slide 14



Slide 14: *Cypripedium* Characteristics – Vegetative

- All *Cypripedium* have a characteristic underground root-like modified stem called a rhizome.
- In most species this rhizome is short and seldom branching, producing a rosary bead-like chain of annual growths.
- The leaves die back annually, leaving the rhizome to survive the annual dormant period. In the springtime new growth arises from buds on the rhizome.
- The leaves are usually oval.
- The leaves are pleated on their long axis and have prominent veins.
- The leaves are often hairy, especially on the veins and margins.

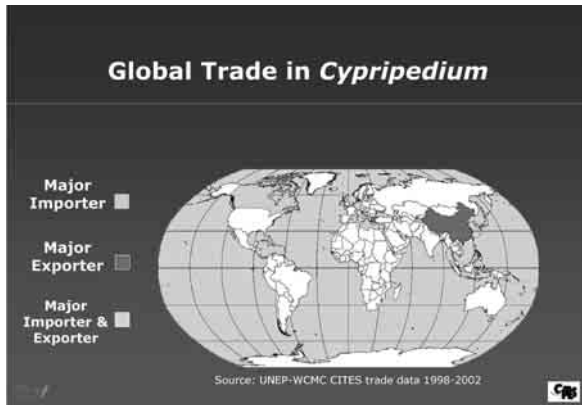
[Note to speaker: The slide shows a rhizome with bud and roots (left), leaves showing variation in colour (top and bottom centre), stem leaves and flower of *Cypripedium fasciolatum* (right).]



Slide 15: Global Distribution of *Cypripedium*

Although the genus *Cypripedium* is found throughout the northern temperate region, China contains by far the largest number of species. The Chinese species, due to lack of access in the past, are extremely sought-after. Most of the species that are now common in cultivation are those from North America, the European species *Cypripedium calceolus* and the Japanese species *Cypripedium formosanum*.

Slide 16



Slide 16: Global Trade in *Cypripedium*

The vast majority of recorded CITES trade in *Cypripedium* taxa for the years 1998-2002 was in live plants. By far the majority of this trade was reported to be in artificially propagated plants (98%).

Taiwan (Province of China), China and the Republic of Korea were the major reported sources of propagated material. These three exporters supplied 93 per cent of reported propagated material between 1998 and 2002.

The main importer of *Cypripedium* taxa between 1998 and 2002 was Japan, accounting for 78 per cent of all CITES recorded imports. Japan, the Republic of Korea, Canada and Germany accounted for 95 per cent of all imports.

Just under 2 per cent of the reported trade between 1998 and 2002 was in wild-collected plants. The United States, the Russian Federation and China were the main suppliers of wild material with Germany, Japan and the United Kingdom being the main importers of wild-collected plants.

[Note to speaker: CITES trade data can be downloaded from the UNEP-WCMC CITES Trade Database. This can be accessed online via the CITES Secretariat website: www.cites.org]



Slide 17: *Cypripedium lichiangense* and *C. palangshanense*

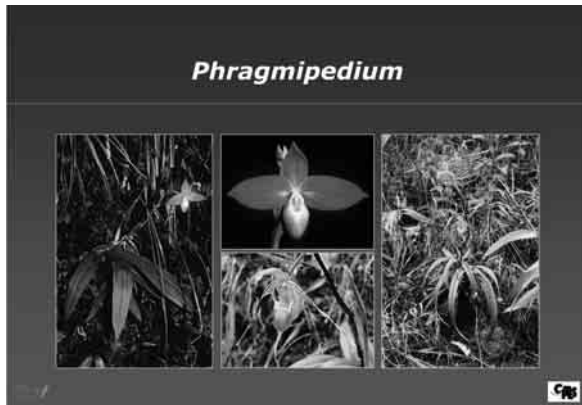
Cypripedium lichiangense was described in 1994 from northeast Myanmar, northwest Yunnan and southwest Sichuan in China. This is a much sought-after species with a spotted birds egg-coloured flower nestling on a pair of leaves. This species is particularly difficult to grow and propagate; plants rarely survive more than 3-4 years in cultivation.

Although *Cypripedium palangshanense* was described in 1936, this species, with small purple flowers, remained largely unknown to the western world until it was rediscovered in 1998. It occurs as a narrow endemic of northwestern and eastern Sichuan in China. This species has a very slender, creeping rhizome.

Both species have found their way into trade.

[Note to speaker: The slide shows *Cypripedium lichiangense* (left) and *Cypripedium palangshanense* (top & bottom right).]

Slide 18

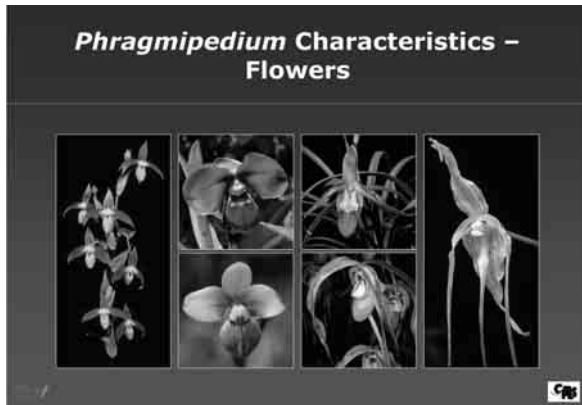


Slide 18: *Phragmipedium*

Phragmipedium is a small genus, comprising some 20 species, ranging from southern Mexico and Guatemala, through Central America to South America as far as southern Bolivia and Brazil. They can be ground-growing, or grow on rock surfaces or trees for support. Typically they are found growing around waterfalls and in other damp areas.

They have a creeping rhizome (modified root-like stem) with leathery leaves that are V-shaped in cross-section. They are less popular in trade than their Southeast Asian rival, *Paphiopedilum*. However, the discovery of *Phragmipedium besseae* in the 1980s, with its novel red flowers caused a marked increase in trade and renewed hobbyist interest in this genus. More recently, in 2002, the discovery of *Phragmipedium kovachii* in Peru, with its large purple flowers, has further stimulated interest in this group.

[Note to speaker: The slide shows *Phragmipedium besseae* (left and top centre) and *Phragmipedium longifolium* (right and bottom centre).]

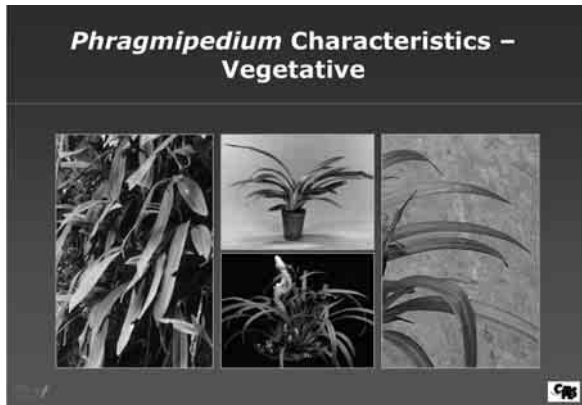


Slide 19: *Phragmipedium* Characteristics – Flowers

When the flowers are in bud, the petal-like modified leaves (sepals) that surround the flower touch at the margins. In the other groups, these sepals overlap. In addition, the margin of the lip of the slipper-like flower folds inward. When the flower withers, unlike *Cypripedium*, the flower is deciduous and falls from the end of the fruit.

[Note to speaker: The slide shows *Phragmipedium besseae* var. *dalessandroi* (left), *Phragmipedium kovachii* (left centre, top), *Phragmipedium longifolium* (right centre, top), *Phragmipedium lindenii* (right), *Phragmipedium schlimii* (left centre, bottom), *Phragmipedium wallisii* (right centre, bottom).]

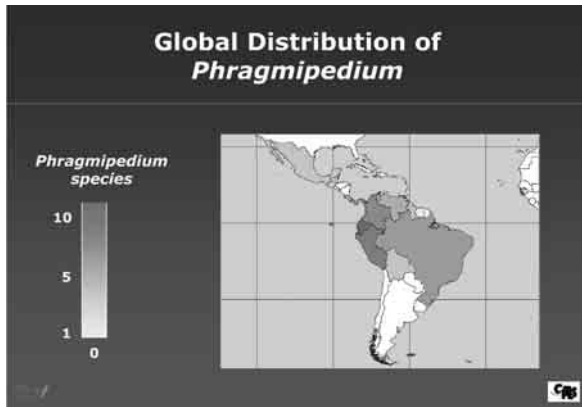
Slide 20



Slide 20: *Phragmipedium* Characteristics – Vegetative

Leaves of *Phragmipedium* are oblong to linear and are usually dull or glossy green with no markings. The leaves are flat, leathery, occur in two ranks or rows on opposite sides of the stem, and have a prominent midrib but lack obvious veins. Leaves persist for two or more years and are not shed on an annual basis. Typically the leaves are long and strap-like and tend to have a pointed leaf tip. Stems are characteristically short. All species have a short or creeping rhizome which lacks the annual growth 'beads' seen in *Cypripedium*.

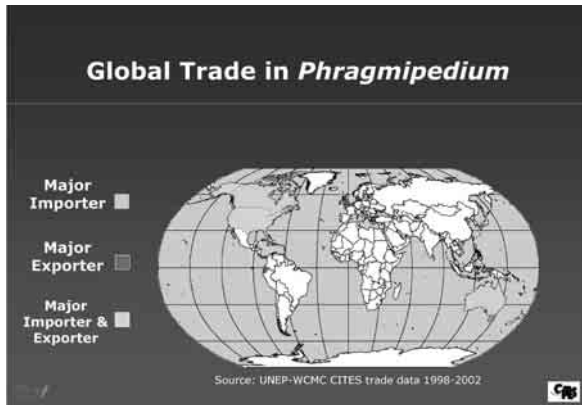
[Note to speaker: The slide shows *Phragmipedium besseae* (left), *Phragmipedium lindleyanum* (top centre), *Phragmipedium longifolium* (bottom centre) and the pointed leaf tips of a *Phragmipedium* species (right).]



Slide 21: Global Distribution of *Phragmipedium*

Phragmipedium is found in Central and South America. It ranges from southern Mexico and Guatemala to southern Bolivia and Brazil.

Slide 22



Slide 22: Global Trade in *Phragmipedium*

The recorded trade in taxa for the years 1998–2002 accounted for less than 2 per cent of all international trade in slipper orchids. All CITES recorded trade for *Phragmipedium* taxa in that period was confined to artificially propagated material.

Ecuador, the United Kingdom, Taiwan (Province of China) and the United States were the largest exporters of artificially propagated material in that period; accounting for 84 per cent of the total. Japan, the United States, Canada and Australia accounted for 77 per cent of all *Phragmipedium* imports in that period. The trade data for 1998 to 2002 also indicates that many countries received their plants as re-exports from the United States.

[Note to speaker: CITES trade data can be downloaded from the UNEP-WCMC CITES Trade Database. This can be accessed online via the CITES Secretariat website: www.cites.org]

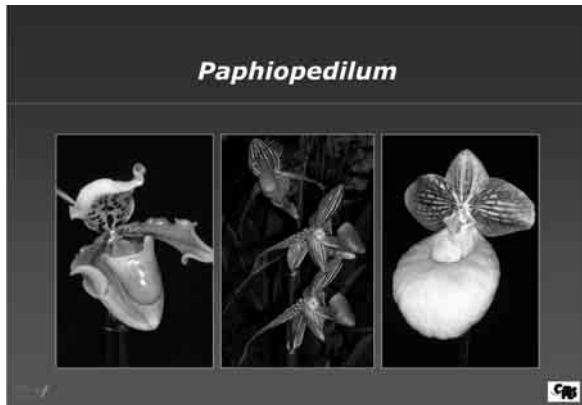


Slide 23: *Phragmipedium kovachii*

Considerable publicity has been generated by the discovery and importation into the USA of *Phragmipedium kovachii*. It was discovered in northern Peru and described in 2002. The media interest and controversy surrounding its discovery obscured the fact that the species was thought to have been collected to extinction by collectors. However, of the 5 known sites, at least one still existed in 2004, with several hundreds of plants. The Peruvian Government have approved a very limited collection from the wild to allow controlled propagation by seed. It is reported that they are allowing export of selected species lines and hybrids from at least one approved nursery. The successful conservation of this unusual and sought-after species can only be aided by mass propagation of seedlings, as quickly as possible, to undermine the value of illegal wild collected plants.

[Note to speaker: This slide shows three images of Phragmipedium kovachii.]

Slide 24

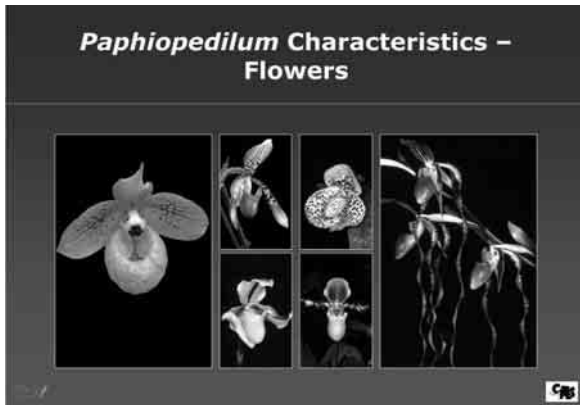


Slide 24: *Paphiopedilum*

Paphiopedilum is the largest genus of slipper orchids with some 80 species occurring in the Asian tropics from southern India to New Guinea and the Philippines. They can be found growing on the ground, on rock and cliff surfaces and attached to trees and other vegetation. Most are ground-growing, growing in leaf litter or in cracks in rocks containing organic matter. They occur in a wide range of habitats from branches of large trees in the rainforests of Thailand to the harsh serpentine soils on Mt Kinabalu.

All have the characteristic slipper-like flower, some with exaggerated inflated flowers such as in the 'Bubblegum' orchid, *Paphiopedilum micranthum*, shown on the right of this slide. They are the most popular group of slipper orchids for collectors and growers. They are in the top 5 most horticulturally important orchid genera with numerous artificial hybrids being made and produced each year. However, there has been significant illegal collection and trade in species *Paphiopedilum*.

[Note to speaker: This slide shows *Paphiopedilum exul* (left), *Paphiopedilum rothschildianum* (centre) and *Paphiopedilum micranthum* (right).]

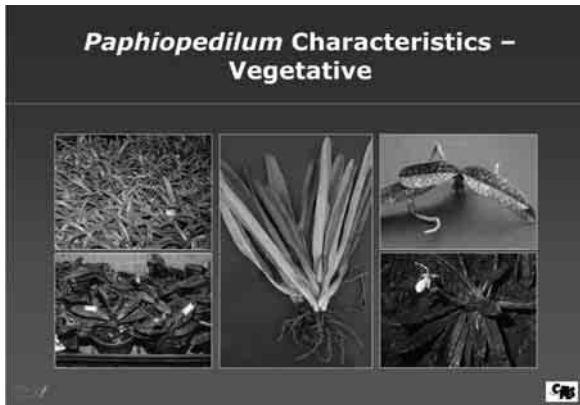


Slide 25: *Paphiopedilum* Characteristics – Flowers

When in bud, the petal-like modified leaves (sepals) that surround the flower overlap each other. In addition, the margin of the slipper-like flower lip does not fold over. When flowers wither, unlike *Cypripedium*, the flower is deciduous and falls from the end of the fruit. In many species the flowers bear hairs and wart-like attachments. Many species are solitary-flowered but some bear multiple flowers. Flower colour is wide, ranging through green to white, pure gold and purple. Some of the most sought-after species have flowers with long, drooping petals, reaching, in the case of *Paphiopedilum sanderianum*, over one metre in length.

[Note to speaker: The slide shows *Paphiopedilum malipoense* (left), *Paphiopedilum haynaldianum* (left centre, top), *Paphiopedilum bellatulum* (right centre, top), *Paphiopedilum druryi* (left centre, bottom), *Paphiopedilum liemianum* (right centre, bottom) and *Paphiopedilum sanderianum* (right).]

Slide 26

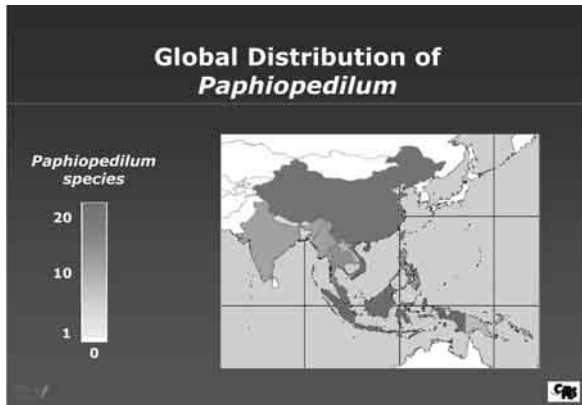


Slide 26: *Paphiopedilum* Characteristics – Vegetative

A rhizome is present in all species but it is usually short. A small number of species, *Paphiopedilum bullenianum*, *P. armeniacum*, *P. micranthum* and *P. druryi* have runner-like rhizomes up to a metre long.

Paphiopedilum leaves are leathery with a prominent middle rib. The leaves are V-shaped in cross-section. Leaves may be short and strap-like or oblong to linear. The leaves are usually short, less than 20 centimetres in length. An exception to this rule is the multiflowered group which includes species such as *Paphiopedilum sanderianum*, *P. rothschildianum* and *P. lowii*. Leaf colour ranges from plain or glossy green to mottled purple and can be quite useful in identification.

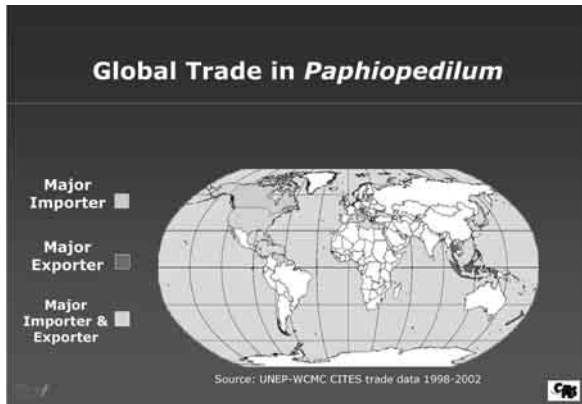
[Note to speaker: The slide shows plants with leathery green strap shaped-leaves (top left), mottled leaves (bottom left), leaves longer than 20 cm in length (centre), mottled leaves (top right) and in habitat with glossy green strap-shaped leaves (*Paphiopedilum liemianum* bottom right).]



Slide 27: Global Distribution of *Paphiopedilum*

The genus *Paphiopedilum* includes some 80 species. Many of these are narrow endemics, but the genus as a whole occurs throughout Southeast Asia, extending from India, east across China to the Philippines and south through the Malay Archipelago to New Guinea and the Solomon Islands. Currently China and Viet Nam are home to many of the most sought-after species.

Slide 28



Slide 28: Global trade in *Paphiopedilum*

A wide range of countries reported exporting artificially propagated *Paphiopedilum* taxa between 1998 and 2002. Indonesia, the Netherlands, Thailand and New Zealand were the major exporting states, accounting for 79 per cent of all recorded exports. In addition, Taiwan (Province of China), the United States, Japan and Belgium all exported more than 10,000 plants. Together these 8 exporters account for just over 90 per cent of all exports. Japan, Malaysia and Austria bring that figure to just over 97 per cent of all exports.

The two largest importers between 1998 and 2002 were Japan and the United States, between them accounting for 75 per cent of all recorded imports. Together with Canada, Italy, Switzerland, Hong Kong and Venezuela, these states accounted for 93 per cent of imports in that period.

[Note to speaker: CITES trade data can be downloaded from the UNEP-WCMC CITES Trade Database. This can be accessed online via the CITES Secretariat website: www.cites.org]



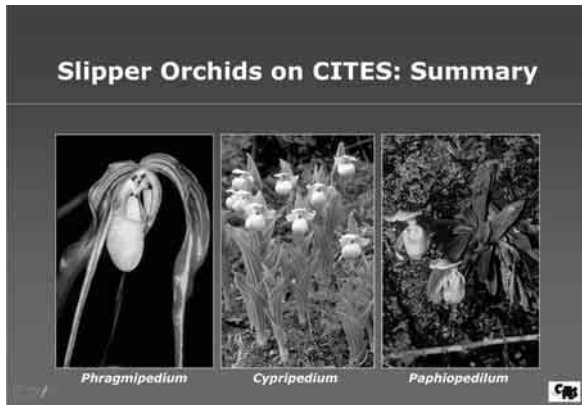
Slide 29: China and Viet Nam

In the 1980s and early 1990s a new group of *Paphiopedilum* were found in China. Not only were they exciting new species, unlike any others previously found but they also represented a whole new potential breeding line for hybrids. These included *Paphiopedilum armeniacum*, *P. emersonii*, *P. micranthum* and *P. malipoense*. This resulted in significant illegal trade. These species are now fairly well established in cultivation, which has had the effect of reducing the need to collect wild plants, although new colour forms such as albinos are always sought after. However, the pressure of collection for international trade has made these species vulnerable to extinction in China.

Towards the end of the 1990s and early 2000s a number of new and unusual species of slipper orchids were described from Viet Nam, most notably *Paphiopedilum vietnamense* and *P. hangianum*. Both are highly sought-after, due to their novel forms. *Paphiopedilum vietnamense* was first described in 1999. In 2001, an expedition was launched to survey the only known locality and only a handful of seedlings were located. This species is now considered to be Critically Endangered because of its very restricted range and level of exploitation.

[Note to speaker: The slide shows *Paphiopedilum armeniacum* (left), *Paphiopedilum emersonii* (top centre), *Paphiopedilum malipoense* (bottom centre) and *Paphiopedilum micranthum* (right).]

Slide 30



Slide 30: Slipper Orchids on CITES: Summary

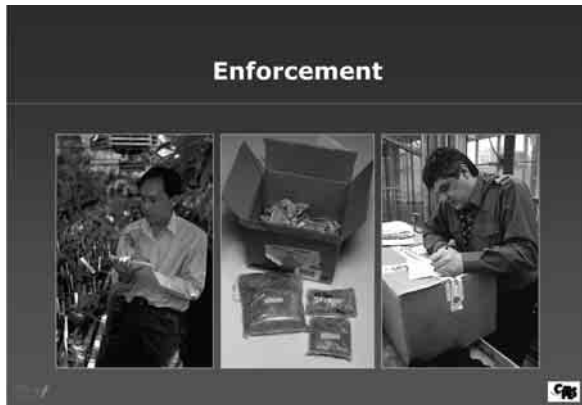
In this section we have outlined:

- the three genera of slipper orchids covered by CITES: *Cypripedium*, *Phragmipedium* and *Paphiopedilum*;
- their characteristics, global distribution and trade.

[Note to speaker: The slide shows: *Phragmipedium wallisii* (left), *Cypripedium flavum* (centre) and *Paphiopedilum helenae* (right).]

**Implementing CITES
for Slipper Orchids**

Slide 32



Slide 32: Enforcement

The enforcement of CITES controls is carried out at different levels. Within an exporting country it is carried out by the inspection of nurseries, traders, markets and, less frequently but most importantly, of the plants at time of export. Inspections can also occur at the time of import and post-importation in the major trading countries. Enforcement agencies also survey trade shows, advertisements in the trade press and the World Wide Web.

Few countries have enforcement teams that are specially trained to identify CITES specimens - animals or plants. CITES enforcement for plants is most likely to be carried out by general Customs staff or by officials trained in plant health controls. When CITES enforcement is carried out by general Customs staff the enforcement procedures are concentrated on the documentation, not the plants. Thus, Customs may check to see if the permits are correctly filled in, stamped and issued by the correct authorities. They also check other documents and invoices to see if any CITES material named on the accompanying documentation is missing from the CITES permits.

Where general Customs staff are used to check CITES plants, it is vital that they have access to a centre of expertise on the identification and conservation of plants. Such a centre should be the national Scientific Authority. However, in some cases the national Scientific Authority may be a committee or a government department with expertise centred on animals. In this case, the enforcement authorities should build a relationship with a national or local botanic garden or herbarium. Such a relationship is vital.

The Customs officers will need some basic training on the plants and parts and derivatives covered by CITES and will need help on targeting detrimental trade. Most importantly, Customs officials will need access to experts who can identify CITES plants. Such experts can also advise on, and have access to facilities for holding, seized or confiscated material. These scientists may be called on to be expert witnesses, who are vital if breaches of the controls result in prosecution and court appearances.


Slide 32


[Note to speaker: To identify the relevant CITES Secretariat staff member to contact on enforcement issues check the staff list on the CITES website: www.cites.org.]

Slide 33

Enforcement - Checks

- Check
 - Documents
 - Country of origin
 - Packaging
 - Shipments
 - Trade routes





Slide 33: Enforcement – Checks

Documents - Check the authenticity of the CITES permits (signatures, stamps), and check the plant names and number of specimens on the permit against the delivery note or invoice. Also, check the source of the plants - are they declared as wild or artificially propagated? Is the plant a recently described species? Make use of the databases and the checklists recommended in the references and resources section. Is the material flasks seedlings or tissue cultures claimed to be exempt from CITES? If this is the case and the species are newly described you may wish to ask your Management Authority to confirm legal origin of the parent stock.

Country of origin – Always check the country of origin on the permits. Are the orchids being exported from a country where the plants grow in the wild? If so then the plants may be more likely to be wild-collected. Countries may express concern over the illegal export of their wild-collected slipper orchids and ask for the assistance of other CITES parties and non-Parties to control this trade. Normally, such a request is published as a Notification to the CITES Parties (you can find this on the CITES website: www.cites.org). Viet Nam, for example, is a country that has expressed concern at illegal international trade in native species of *Paphiopedilum*.

Packaging - Nurseries will usually wrap and package their plants carefully to avoid damaging them. They are then shipped in boxes marked with the nursery's name and with printed labels. Consignments of illegally collected plants may be poorly wrapped using local materials, contain handwritten labels (sometimes with collecting data), and the plants may not be identified to species level to disguise the fact that new unnamed species may have been collected.

Consignments of plants - Collections of illegal plants usually consist of small samples of plants of different size and age groups that are not uniform in shape. They may be damaged (broken or snapped roots), and soil and weeds or native plants may be present amongst the stems and roots. Artificially propagated plants will be uniform in size and shape, and be clean of soil, pests and diseases, weeds or native plants.

Trade routes & smuggling - Illegal collections of rare or new species may be shipped using postal or courier services or hand luggage to avoid detection.

Slide 33

Collections may also be split up and sent in several different packages to ensure both a high level of survival and that at least some of the plants will evade detection.

Slide 34



Slide 34: Distinguishing Between Wild and Artificially Propagated Plants

Distinguishing between wild collected and artificially propagated plants is not a straightforward matter, but there are certain characteristics that can be used to make this distinction.

Wild-collected plants carry the marks of growing in their natural habitat. Plants propagated in nurseries bear the marks of an artificial, well maintained environment. They are clean, uniform and packed to a high standard. Sometimes orchids are propagated outside or in shade houses; in these cases the plants may carry some marks similar to wild collected plants. It is therefore important that you call in an expert to check the status of any plants you consider may be wild-collected rather than artificially propagated.

The CITES Identification Manual Volume 1, flora, available from the CITES Secretariat, includes details of how to distinguish wild from artificially propagated plants in the major CITES groups. But remember: always get your opinion checked by an expert!



Slide 35: Wild-Collected Orchids

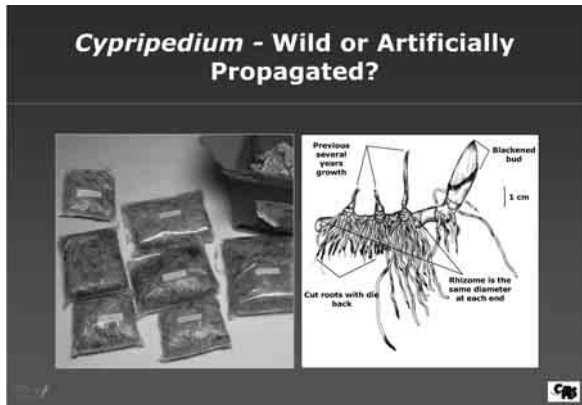
Roots of wild-collected plants are often dead, roughly broken, or cut off in an effort to clean up the plant after collection. New roots may be growing from old damaged root material. Roots from wild plants may also have material from the natural substrate still attached. Note if the substrate attached to the roots is in any order. For example, the roots may have some organic material directly attached to them, then there may be some *Sphagnum* moss used for transport and then finally there may be some horticultural compost such as bark or rockwool. But remember; always be cautious in your assessment.

Leaves of wild-collected plants display the marks of their natural habitat, the damage caused by collection, and often the contrasting fresh growth which has occurred after collection. The base leaves are often dead or damaged. The leaves may be pitted due to desiccation and also carry the tracks made by burrowing insects. Freshly collected plants may also have growths of lichens or liverworts. Such growths would not normally survive in the controlled conditions of an orchid nursery. As the wild plants grow older after they are brought into a nursery new leaves will sprout and these will be clean and fresh in marked contrast to the old 'wild' leaves. Old 'wild' marked leaves may have been deliberately cut off, to leave only the few new leaves produced while the plant was in the nursery.

The CITES Identification Manual Volume 1, flora includes detailed information on how to tell wild-collected orchids from artificially propagated plants. However, it is always important to get an expert second opinion to confirm your identification of the plants as wild-collected. Plants grown in poor conditions outside or in shade houses sometimes carry some of the marks of wild-collected plants.

[Note to speaker: The Plants Committee has produced a series of regional directories which include contact names of CITES experts in the different countries (see CITES website for details). You may wish to use this to establish contact with a relevant expert. The characteristics of wild-collected and artificially propagated orchids are outlined in the CITES Identification Manual Volume 1, flora. Each CITES Authority is supplied with a copy of this manual by the CITES Secretariat. If your Authority does not have an up-to-date copy of this manual, contact the CITES Secretariat.]

Slide 36



Slide 36: *Cypripedium* – Wild or Artificially Propagated?

Distinguishing between wild-collected and artificially propagated plants is not a straightforward matter, but there are certain characteristics that can help make this distinction.

All *Cypripedium* have a characteristic underground root-like modified stem called a rhizome.

The rhizome produces a series of bead-like annual growths. Most species have a short but stout, seldom-branching creeping rhizome. In some species such as *Cypripedium guttatum* and *C. margaritaceum*, the rhizome is elongated and the annual growths occur every few centimetres. The rhizome survives the dormant period with the new bud at the tip. The true roots are fibrous and emerge from behind the shoot.

Cypripedium are usually traded when dormant. They are traded, in the spring or autumn, as rhizomes displaying buds and fibrous roots. A large consignment may appear to be just a bag of roots and look nothing like what the general public considers to be a typical orchid. High quality commercial consignments are often packed in *Sphagnum* moss as in the photograph on the left.

The rhizome is extremely useful as it may be used to give an indication of the age of the plant. Round growth scars remain from the previous years growth and therefore a plant can be given a minimum age. If the rhizome is constant in diameter, this indicates a mature plant (normally at least five years old). In immature plants the rhizome display a gradual increase in diameter until it reaches its optimum size.

If you inspect a shipment and consider it to be misdeclared as artificially propagated then you should contact an expert to confirm your opinion.



Slide 37: *Cypripedium* – Potential Illegal Trade

Illegal trade in *Cypripedium* orchids is most likely to occur in the most recently described species and those which are difficult to propagate. They may enter trade as claimed artificially propagated plants. As they are most frequently traded internationally as rhizomes, expert opinion will be required to determine if they are wild origin or artificially propagated as defined by CITES. To help you keep track of the recently described species we suggest you check the databases we have outlined in the references and resources section. Check the date that the plant was originally described to science: if it is recent, the plant is more likely to be wild-collected.

*[Note to speaker: The slide shows bags of wild collected *Cypripedium* rhizomes (left) and *Cypripedium x froschii* (right).]*

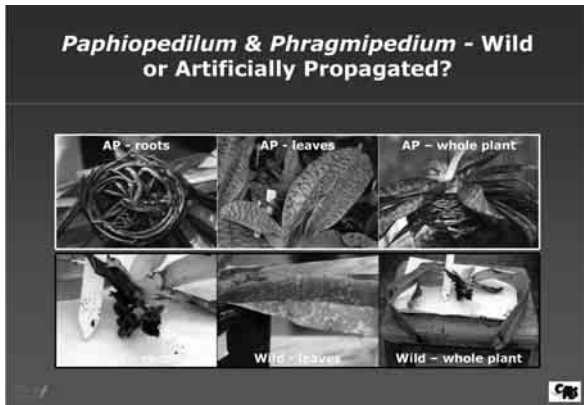
Slide 38

<i>Paphiopedilum</i> & <i>Phragmipedium</i> Wild or Artificially Propagated?		
	Wild	Artificially propagated
General Appearance	<ul style="list-style-type: none"> • Irregular shape and size • Damaged and marked 	<ul style="list-style-type: none"> • Uniform shape and size • Clean and healthy
Roots	<ul style="list-style-type: none"> • Damaged or cut • Some new root growth 	<ul style="list-style-type: none"> • Clean and healthy • May have shape of pot
Leaves	<ul style="list-style-type: none"> • Lower leaves damaged or cut • Insect damage/mining burrows • Pitted due to desiccation • Presence of lichens 	<ul style="list-style-type: none"> • Clean and undamaged • Not cut back • Little or no insect damage
Soil	<ul style="list-style-type: none"> • Habitat soil or substrate attached 	<ul style="list-style-type: none"> • Only horticultural compost

Slide 38: *Paphiopedilum* and *Phragmipedium* – Wild or Artificially Propagated?

This slide summarises the key characteristics of wild and artificially propagated *Paphiopedilum* and *Phragmipedium*. Orchids are usually traded internationally in a non-flowering state and initial identification and determination that the plant is wild-collected will have to be based on the examination of vegetative material. Initially, you should not be too concerned about what species the orchid is – your primary concern is to determine whether the plant is wild-collected. If the plant bears a significant number of the characteristics outlined in this slide and you think it may be wild-collected, you should contact an expert to confirm your view.

[Note to speaker: The Plants Committee has produced a series of regional directories which include contact names of CITES experts in the different countries (see CITES website for details). You may wish to use this to establish contact with a relevant expert. The characteristics of wild-collected and artificially propagated orchids are outlined in the CITES Identification Manual Volume I, flora. Each CITES Authority is supplied with a copy of this manual by the CITES Secretariat. If your Authority does not have an up to date copy of this manual then contact the CITES Secretariat.]



Slide 39: *Paphiopedilum* and *Phragmipedium* – Wild or Artificially Propagated?

This slide illustrates some of the characteristics that may be displayed by wild-collected and artificially propagated plants.

[Note to speaker: This slide shows Paphiopedilum spp.]

Slide 40



Slide 40: *Phragmipedium* – Potential Illegal Trade

Potential illegal trade will be concentrated on newly described species. We have highlighted the case of *Phragmipedium kovachii*, where its discovery created great interest in the orchid world and also was a spur for illegal trade. This species remains highly sought-after and wild plants may be found in illegal trade for some time. The species is likely to be smuggled without permits or misdeclared on permits.

To help you check the names of recently described species of *Phragmipedium* we suggest you consult the databases we have outlined in the references and resources section.

*[Note to speaker: This slide shows three views of *Phragmipedium kovachii*.]*



Slide 41: *Paphiopedilum* – Potential Illegal Trade

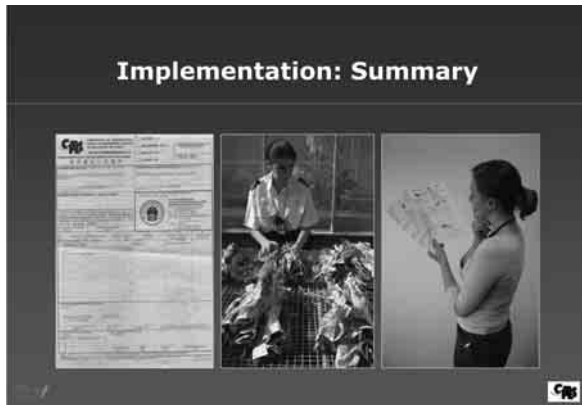
Once again, potential illegal trade will be concentrated on newly described species. Recently, the most interesting new species have been found in China and Viet Nam. New species have also been found in the Philippines, Indonesia and Malaysia.

Imports from Asia should be checked. In addition to commercial consignments, personal imports carried in luggage, hand baggage and sent by post and courier are all possible sources of smuggled material.

To check the names of recently described species of *Paphiopedilum* we suggest you consult the databases we have outlined in the references and resources section. You can check the date of publication of a new species name – the more recently the name has been published, the more likely the plant may be of wild origin.

[Note to speaker: This slide shows Paphiopedilum micranthum (left) and Paphiopedilum armeniacum (right) in their native habitat in China – species that were in demand from the wild when first introduced to trade in the 1980s.]

Slide 42



Slide 42: Implementation: Summary

We have covered the following key issues in the implementation of CITES for slipper orchids:

- enforcement procedures in different countries;
- an inspection checklist;
- the general characteristics of wild and artificially propagated plants;
- potential illegal trade.

For more information on enforcement issues and training, check the CITES website at www.cites.org.

Additional Slides

Slide 44



Slide 44: Exemptions

Many plants are only traded from artificially propagated sources. Recognising this, the Parties have taken the decision to exempt some orchid material from CITES controls.

For plants listed on CITES Appendix I, the whole plant and all parts and derivatives are controlled – alive or dead. There is only one exception. Seedling or tissue cultures ‘obtained *in vitro*, in solid or liquid media, transported in sterile containers’ are exempt. This material, of course, must be of legal origin to fulfil this exemption.

For plants listed on CITES Appendix II, the plant is controlled ‘alive or dead’ and so is any readily recognisable part or derivative specified in the Appendices. In the case of *Cypripedium*, the only parts and derivatives exempted from CITES control are: a) seeds and pollen (including pollinia); b) seedling or tissue cultures obtained *in vitro*, in solid or liquid media, transported in sterile containers; and c) cut flowers of artificially propagated plants.

[Note to speaker: Although a large number of orchid hybrid taxa have been exempted from CITES control, these exemptions do not extend to slipper orchids. For detail of the exemptions that apply to other orchid hybrids, check the CITES website at www.cites.org.]



Slide 45: The CITES Nursery Registration System

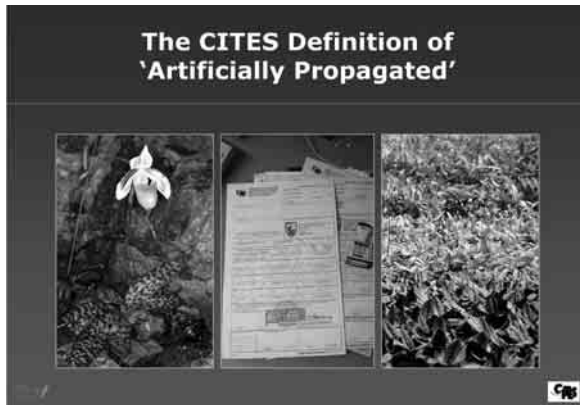
The CITES procedures for nursery registration are laid down in Resolution Conf. 9.19 (Rev. CoP13) *Guidelines for the registration of nurseries exporting artificially propagated specimens of Appendix I species*. This was adopted at the 9th Meeting of the CITES Conference of the Parties in Fort Lauderdale, USA, in November 1994 and revised at CoP13 in Bangkok in 2004. CITES has not laid down any criteria for the registration of nurseries that propagate Appendix II plants. However, any national CITES authority is free to set up an Appendix II registration scheme with, for example, a fast stream permit system. This would be to the benefit of the local authorities and traders, however, the registration scheme would have no recognition outside that country.

The Management Authority (MA) of any Party, in consultation with the Scientific Authority (SA), may submit a nursery for inclusion in the CITES Secretariat's Appendix I register. The owner of the nursery must first submit a profile of the operation to the MA. This profile should include, *inter alia*, a description of facilities, propagation history and plans, numbers and type of Appendix I parental stock held and evidence of legal acquisition. The MA in consultation with the SA must review this information and judge whether the operation is suitable for registration. During this process it would be normal for the national CITES authorities to inspect the nursery in some detail.

When the national authorities are satisfied that the nursery is *bona fide* and suitable for registration they pass on this opinion and the nursery details to the CITES Secretariat. The CITES MA must also outline details of the inspection procedures that they used to confirm identity and legal origin of parental stock of the plants to be included in the registration scheme and any other Appendix I material held. The national CITES authorities must also ensure that any wild-origin parental stock is not depleted and the overall operation is closely monitored. If wild-collected seeds are being used the MA should certify that the conditions outlined in the CITES definition of artificial propagation are being adhered to (see Slide 46). The MA should also put in place a fast stream permit system for the nurseries and inform the Secretariat of its details.

Slide 45

The CITES Secretariat, if satisfied with the information supplied, must then include the nursery in its register of operations. If not satisfied the Secretariat must make its concerns known to the CITES MA, indicating what needs to be clarified. Any CITES MA or other source may inform the Secretariat of breaches of the requirements for registration. If these concerns are upheld, then following consultation with the CITES MA, the nursery may be deleted from the register.



Slide 46: The CITES Definition of Artificially Propagated

The CITES definition of artificially propagated is included in Resolution Conf. 11.11 (Rev. CoP13) – *Regulation of trade in plants*. The definition within CITES includes several unique criteria. The application of these criteria may result in a plant which bears all the physical characteristics of artificial propagation being considered as wild-collected in CITES terms. The key points are:

- Plants must be grown in controlled conditions. This means, for example, the plants are manipulated in a non-natural environment to promote prime growing conditions and to exclude predators. A traditional nursery or simple greenhouse is ‘controlled conditions’. A managed tropical shade house would also be an example of ‘controlled conditions’. Temporary annexation of a piece of natural vegetation where wild specimens of the plants already occur would not be ‘controlled conditions’. Also, wild-collected plants are considered wild even if they have been cultivated in controlled conditions for some time.
- The cultivated parent stock must have been *established in a manner not detrimental to the survival of the species in the wild* and managed in a manner which *ensures long term maintenance of the cultivated stock*.
- The cultivated parental stock must have been *established in accordance with the provisions of CITES and relevant national laws*. This means that the stock must be obtained legally in CITES terms and also in terms of any national laws in the country of origin. For example, a plant may have been illegally collected within a country of origin, then cultivated in a local nursery and then its progeny exported, declared as artificially propagated. The progeny cannot be considered to be artificially propagated in CITES terms due to the illegal collection of the parent plants.
- Seeds can only be considered artificially propagated if they are taken from plants which themselves fulfil the CITES definition of artificially propagated. The term *cultivated parental stock* is used in order to allow some addition of fresh wild-collected plants to the parental stock. It is acknowledged that parental stock may need to be occasionally

Slide 46

supplemented from the wild. As long as this is done in a legal and sustainable fashion, it is allowed.

- Plants and seeds may be considered artificially propagated if grown from wild-collected seeds, within a range State, if this is approved by the Management and Scientific Authorities of that country.

Applying the CITES definition is a complex mixture of checking legal origin, propagation status and non-detrimental collection. To achieve this, the assessment needs to be carried out in close co-operation between the CITES Management and Scientific Authorities. The implementation of the criteria, on a day-to-day basis, needs to be tailored to the situation in an individual CITES Party. National CITES authorities should consider producing a checklist as a means of standardising the process and informing the local plant traders.



Slide 47: Promoting Sustainable Trade and Access to Breeding Material

The listing of groups of plants and animals on CITES Appendix I in effect bans trade in wild specimens for commercial purposes. The purpose of the listing is to protect such plants and animals from detrimental trade that might drive them to extinction. An Appendix I listing should not be seen as a conservation success in itself. Rather, a conservation success is achieved when that taxon can be downlisted to Appendix II. It is therefore important that conservation action take place following a CITES Appendix I listing. The demand for Appendix I taxa does not disappear following an Appendix I listing; the theory is that propagated material should be made available to fill this demand. This is possible where suitable propagation techniques have been developed and legal mother plants are available.

However, in the case of slipper orchids, new species are sought after, found and described. Legal mother plants for breeding stock are often difficult to obtain. In these cases illegal material leaks into the international market and is slowly incorporated into breeding stock. This process promotes unsustainable collection of the rarest species and robs the country of origin of the significant income that could be derived from the introduction of such stock into the international market place. This problem has not been addressed. There has been inertia within countries of origin, the international orchid trade and the CITES community. We await successful collaboration to establish mechanisms to allow access to breeding material and help defeat the illegal trade. Countries of origin need assistance in setting up such programmes.

It is possible to establish initiatives within CITES to make this happen. All that is needed is enthusiasm, initiative, trust and funding. Trust is probably the hardest of these to secure. Such breeding initiatives will always be vulnerable to being undermined by illegal trade or indeed being branded as 'biopiracy'. If you are working within CITES or the orchid industry you should try to encourage initiatives of this type. This would promote sustainable trade and allow countries of origin to have access to the funds generated by their own resources. It may also be the only way to cement the partnerships required for the long term conservation of the species and their habit.

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Slipper Orchid Names in Current Usage

Cypripedium, Paphiopedilum and Phragmipedium

This list provides an update of the current accepted names in these three genera and is based on the World Checklist of Monocots (2005)* and revised following comments from experts. It is not an update of the CITES official checklist, which will be updated in the near future. It is an informal checklist- a work in progress!

***World Checklist of Monocots (2005) The Board of Trustees of the Royal Botanic Gardens, Kew. Published on the Internet;
<http://www.kew.org/monocotChecklist/> [accessed 3/2005].**

**CYPRIPEDIUM – LIST OF ALL NAMES / CYPRIPEDIUM – LISTE
COMPLÈTE DES NOMS / CYPRIPEDIUM – LISTA DE TODOS LOS
NOMBRES**

Accepted names are given in **bold** / Les noms acceptés sont en **caractères gras** /
Los nombres aceptados se dan en **negrita**

ALL NAMES TOUS LES NOMS TODOS LOS NOMBRES	ACCEPTED NAME NOM ACCEPTÉS NOMBRES ACEPTADOS
Cypripedium acaule	
<i>Cypripedium acaule</i> f. <i>biflorum</i>	Cypripedium acaule
<i>Cypripedium acaule</i> var. <i>album</i>	Cypripedium acaule
<i>Cypripedium album</i>	Cypripedium reginae
<i>Cypripedium alternifolium</i>	Cypripedium calceolus
<i>Cypripedium amesianum</i>	Cypripedium yunnanense
<i>Cypripedium appletonianum</i>	Paphiopedilum appletonianum
<i>Cypripedium argus</i>	Paphiopedilum argus
Cypripedium arietinum	
<i>Cypripedium arietinum</i> f. <i>biflorum</i>	Cypripedium arietinum
<i>Cypripedium assamicum</i>	Paphiopedilum fairrieanum
<i>Cypripedium assurgens</i>	Cypripedium parviflorum var. pubescens
<i>Cypripedium atsmori</i>	Cypripedium macranthos
<i>Cypripedium aureum</i>	Cypripedium parviflorum var. pubescens
<i>Cypripedium barbatum</i>	Paphiopedilum barbatum
<i>Cypripedium barbatum</i> var. <i>biflorum</i>	Paphiopedilum barbatum
<i>Cypripedium barbatum</i> var. <i>rossi</i>	Paphiopedilum callosum
<i>Cypripedium barbatum</i> var. <i>superbum</i>	Paphiopedilum superbians
<i>Cypripedium barbatum</i> var. <i>veitchii</i>	Paphiopedilum superbians
<i>Cypripedium barbatum</i> var. <i>warneri</i>	Paphiopedilum callosum var. sublaeve
<i>Cypripedium barbatum</i> var. <i>warnerianum</i>	Paphiopedilum callosum var. warnerianum
Cypripedium bardolphianum	
<i>Cypripedium bardolphianum</i> var. <i>zhongdianense</i>	Cypripedium forrestii
<i>Cypripedium bellatulum</i>	Paphiopedilum bellatulum
<i>Cypripedium bifidum</i>	Cypripedium parviflorum
<i>Cypripedium biflorum</i>	Paphiopedilum barbatum
<i>Cypripedium binotii</i>	Phragmipedium vittatum
<i>Cypripedium boissierianum</i>	Phragmipedium boissierianum
<i>Cypripedium boreale</i>	Cypripedium calceolus
<i>Cypripedium boxallii</i>	Paphiopedilum villosum var. boxallii
<i>Cypripedium boxallii</i> var. <i>atratum</i>	Paphiopedilum villosum var. boxallii
<i>Cypripedium bulbosum</i>	Calypto bulbosa
<i>Cypripedium bulbosum</i> var. <i>parviflorum</i>	Cypripedium parviflorum
<i>Cypripedium bullenianum</i>	Paphiopedilum bullenianum
<i>Cypripedium bullenianum</i> var. <i>appletonianum</i>	Paphiopedilum appletonianum
Cypripedium calceolus	
<i>Cypripedium calceolus</i> var. <i>delta</i>	Cypripedium guttatum
<i>Cypripedium calceolus</i> var. <i>gamma</i>	Cypripedium reginae
<i>Cypripedium calceolus</i> var. <i>parviflorum</i>	Cypripedium parviflorum
<i>Cypripedium calceolus</i> var. <i>planipetalum</i>	Cypripedium parviflorum var. pubescens
<i>Cypripedium calceolus</i> var. <i>pubescens</i>	Cypripedium parviflorum var. pubescens
Cypripedium calcicolum	

ALL NAMES

Cypripedium californicum

Cypripedium callosum

Cypripedium callosum var. *sublaeve*

Cypripedium canadense

Cypripedium candidum

Cypripedium cannartianum

Cypripedium cardiophyllum

Cypripedium caricinum

Cypripedium caricinum Bateman

Cypripedium cathayenum

Cypripedium caudatum

Cypripedium caudatum var. *lindenii*

Cypripedium caudatum var. *wallisii*

Cypripedium caudatum var. *warscewiczii*

Cypripedium chamberlainianum

Cypripedium chantinii

Cypripedium charlesworthii

Cypripedium cheniae

Cypripedium chica

Cypripedium chinense

Cypripedium ciliolare

Cypripedium ciliolare var. *miteauanum*

Cypripedium compactum

Cypripedium concolor

Cypripedium concolor var. *chlorophyllum*

Cypripedium concolor var. *godefroyae*

Cypripedium concolor var. *reynieri*

Cypripedium concolor var. *sulphurinum*

Cypripedium concolor var. *tonkinense*

Cypripedium cordigerum

Cypripedium corrugatum

Cypripedium corrugatum var. *obesum*

Cypripedium cothurnum

Cypripedium crawshayae

Cypripedium crossii

Cypripedium cruciatum

Cypripedium cruciforme

Cypripedium curtisii

Cypripedium curtisii var. *sanderae*

Cypripedium czerwiakowianum

Cypripedium daliense

Cypripedium dariense

Cypripedium daultonii

Cypripedium dauthieri

Cypripedium dayanum

Cypripedium debile

Cypripedium delenatii

Cypripedium dickinsonianum

Cypripedium dilectum

Cypripedium dominianum

Cypripedium druryi

Cypripedium ebracteatum

Cypripedium elatum

ACCEPTED NAMES

Paphiopedilum callosum

Paphiopedilum callosum var. *warnerianum*

Cypripedium reginae

Paphiopedilum philippinense

Cypripedium debile

Phragmipedium caricinum

Phragmipedium caricinum

Cypripedium japonicum

Phragmipedium caudatum

Phragmipedium lindenii subsp. *lindenii*

Phragmipedium lindenii subsp. *wallisii*

Phragmipedium exstaminodium subsp. *warscewiczii*

Paphiopedilum victoria-regina

Paphiopedilum insigne

Paphiopedilum charlesworthii

Cypripedium fasciolatum

Selenipedium chica

Cypripedium henryi

Paphiopedilum ciliolare

Paphiopedilum ciliolare

Cypripedium tibeticum

Paphiopedilum concolor

Paphiopedilum concolor

Paphiopedilum godefroyae

Paphiopedilum concolor

Paphiopedilum concolor

Paphiopedilum concolor

Cypripedium tibeticum

Cypripedium tibeticum

Catasetum macrocarpum

Paphiopedilum charlesworthii

Paphiopedilum barbatum

Cypripedium calceolus

Paphiopedilum lowii

Paphiopedilum superbians var. *curtisii*

Paphiopedilum superbians var. *curtisii*

Phragmipedium boissierianum var. *czerviakovianum*

Cypripedium margaritaceum

Phragmipedium longifolium

Cypripedium kentuckiense

Paphiopedilum hennisianum

Paphiopedilum dayanum

Paphiopedilum delenatii

Paphiopedilum villosum var. *boxallii*

Phragmipedium Dominionum (hybrid)

Paphiopedilum druryi

Cypripedium fargesii

Phragmipedium humboldtii

ALL NAMES

ACCEPTED NAMES

Cypripedium elegans	
<i>Cypripedium elliottianum</i>	Paphiopedilum rothschildianum
<i>Cypripedium epidendricum</i>	Eulophia alta
<i>Cypripedium ernestianum</i>	Paphiopedilum dayanum
<i>Cypripedium exul</i>	Paphiopedilum exul
<i>Cypripedium fairrieianum</i>	Paphiopedilum fairrieianum
Cypripedium fargesii	
Cypripedium farreri	
Cypripedium fasciculatum	
<i>Cypripedium fasciculatum</i> var. <i>pusillum</i>	Cypripedium fasciculatum
Cypripedium fasciolatum	
<i>Cypripedium ferrugineum</i>	Cypripedium calceolus
<i>Cypripedium flavescens</i>	Cypripedium parviflorum var. pubescens
Cypripedium flavum	
Cypripedium formosanum	
Cypripedium forrestii	
Cypripedium franchetii	
<i>Cypripedium froschii</i>	Cypripedium x froschii (hybrid)
<i>Cypripedium furcatum</i>	Cypripedium parviflorum var. pubescens
<i>Cypripedium gardineri</i>	Paphiopedilum glanduliferum
<i>Cypripedium glanduliferum</i>	Paphiopedilum glanduliferum
<i>Cypripedium glaucophyllum</i>	Cypripedium glaucophyllum
<i>Cypripedium godefroyae</i>	Paphiopedilum godefroyae
<i>Cypripedium godefroyae</i> var. <i>leucochilum</i>	Paphiopedilum godefroyae
<i>Cypripedium grandiflorum</i>	Phragmipedium boissierianum
<i>Cypripedium gratixianum</i>	Paphiopedilum gratixianum
Cypripedium guttatum	
<i>Cypripedium guttatum</i> f. <i>albiflorum</i>	Cypripedium guttatum
<i>Cypripedium guttatum</i> subsp. <i>yatabeanum</i>	Cypripedium yatabeanum
<i>Cypripedium guttatum</i> var. <i>segawai</i>	Cypripedium segawai
<i>Cypripedium guttatum</i> var. <i>wardii</i>	Cypripedium wardii
<i>Cypripedium guttatum</i> var. <i>yatabeanum</i>	Cypripedium yatabeanum
<i>Cypripedium hartwegii</i>	Phragmipedium longifolium
<i>Cypripedium haynaldianum</i>	Paphiopedilum haynaldianum
Cypripedium henryi	
Cypripedium himalaicum	
<i>Cypripedium hincksianum</i>	Phragmipedium longifolium
<i>Cypripedium hirsutissimum</i>	Paphiopedilum hirsutissimum
<i>Cypripedium hirsutum</i>	Cypripedium acaule
<i>Cypripedium hookerae</i>	Paphiopedilum hookerae
<i>Cypripedium hookerae</i> var. <i>volonteanum</i>	Paphiopedilum hookerae var. volonteanum
<i>Cypripedium humboldtii</i>	Phragmipedium exstaminodium subsp. warscewiczii
<i>Cypripedium humile</i>	Cypripedium acaule
<i>Cypripedium hyeanum</i>	Paphiopedilum lawrenceanum
<i>Cypripedium insigne</i>	Paphiopedilum insigne
<i>Cypripedium insigne</i> var. <i>exul</i>	Paphiopedilum exul
<i>Cypripedium insigne</i> var. <i>sanderiae</i>	Paphiopedilum insigne
<i>Cypripedium insigne</i> var. <i>sanderianum</i>	Paphiopedilum insigne
Cypripedium irapeanum	
<i>Cypripedium isabelianum</i>	Selenipedium isabelianum
Cypripedium japonicum	
<i>Cypripedium japonicum</i> var. <i>formosanum</i>	Cypripedium formosanum
<i>Cypripedium japonicum</i> var. <i>glabrum</i>	Cypripedium japonicum
<i>Cypripedium javanicum</i>	Paphiopedilum javanicum
<i>Cypripedium javanicum</i> var. <i>virens</i>	Paphiopedilum javanicum var. virens
Cypripedium kentuckiense	
<i>Cypripedium kentuckiense</i> f. <i>pricei</i>	Cypripedium kentuckiense

ALL NAMES

Cypripedium klotzschianum.....
Cypripedium knightae.....
Cypripedium laevigatum.....
Cypripedium langrhoa.....
Cypripedium lanuginosum.....
Cypripedium lawrenceanum.....
Cypripedium lawrenceanum var. *hycanum*.....

Cypripedium lentiginosum

Cypripedium lezarzae.....

Cypripedium lichiangense

Cypripedium lindenii.....

Cypripedium lindleyanum.....

Cypripedium linearisubulatum.....

Cypripedium longifolium.....

Cypripedium longifolium var. *gracile*.....

Cypripedium lowii.....

Cypripedium ludlowii

Cypripedium luteum franch.

Cypripedium luteum Raf.

Cypripedium luteum var. *angustifolium*.....

Cypripedium luteum var. *biflorum*.....

Cypripedium luteum var. *concolor*.....

Cypripedium luteum var. *glabrum*.....

Cypripedium luteum var. *grandiflorum*.....

Cypripedium luteum var. *maculatum*.....

Cypripedium luteum var. *parviflorum*.....

Cypripedium luteum var. *pubescens*.....

Cypripedium luzmarianum.....

Cypripedium macranthos

Cypripedium macranthos nothof. *alboroseum*.....

Cypripedium macranthos nothof. *albostriatum*.....

Cypripedium macranthos nothof. *flavoroseum*.....

Cypripedium macranthos var. *album*.....

Cypripedium macranthos var. *atropurpureum*.....

Cypripedium macranthos var. *flavum*.....

Cypripedium macranthos var. *himalaicum*.....

Cypripedium macranthos var. *tibeticum*.....

Cypripedium macranthos var. *ventricosum*.....

Cypripedium macranthos var. *villosum*.....

Cypripedium makasin.....

Cypripedium margaritaceum

Cypripedium margaritaceum var. *fargesii*.....

Cypripedium marianus.....

Cypripedium mastersianum.....

Cypripedium maulei.....

Cypripedium micranthum

Cypripedium microsaccos.....

Cypripedium miteauanum.....

Cypripedium moensianum.....

Cypripedium moensii.....

Cypripedium molle**Cypripedium montanum****ACCEPTED NAMES**

Phragmipedium klotzschianum

Cypripedium fasciculatum

Paphiopedilum philippinense

Cypripedium tibeticum

Cypripedium franchetii

Paphiopedilum lawrenceanum

Paphiopedilum lawrenceanum

Cypripedium irapeanum

Phragmipedium lindenii var.

lindenii

Phragmipedium lindleyanum

Cleisostoma subulatum

Phragmipedium longifolium

Phragmipedium longifolium

Paphiopedilum lowii

Cypripedium flavum

Cypripedium parviflorum

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum var.

pubescens

Cypripedium parviflorum

Cypripedium parviflorum var.

pubescens

Cypripedium molle

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium macranthos

Cypripedium x ventricosum

(hybrid)

Cypripedium franchetii

Cypripedium parviflorum var.

makasin

Cypripedium fargesii

Cypripedium calceolus

Paphiopedilum mastersianum

Paphiopedilum insigne

Cypripedium calceolus

Paphiopedilum ciliolare

Paphiopedilum argus

Paphiopedilum argus

ALL NAMES

Cypripedium montanum f. *praetertinctum*
Cypripedium montanum f. *welchii*
Cypripedium neoguineense
Cypripedium nigritum
Cypripedium niveum
Cypripedium niveum var. *album*
Cypripedium nutans
Cypripedium occidentale
Cypripedium orientale

Cypripedium palangshanense

Cypripedium palmifolium
Cypripedium papuanum
Cypripedium pardinum
Cypripedium parishii

Cypripedium parviflorum

Cypripedium parviflorum f. *albolabium*
Cypripedium parviflorum var. **makasin**
Cypripedium parviflorum var. *planipetalum*

Cypripedium parviflorum var. **pubescens****Cypripedium passerinum**

Cypripedium passerinum var. *minganense*
Cypripedium paulistanum
Cypripedium pearcei
Cypripedium petri
Cypripedium philippinense
Cypripedium philippinense var. *roebelenii*

Cypripedium pitcherianum
Cypripedium planipetalum

Cypripedium platytaenium

Cypripedium plectrochilum

Cypripedium praestans
Cypripedium praestans var. *kimballianum*
Cypripedium pubescens
Cypripedium pubescens var. *makasin*

Cypripedium pulchrum

Cypripedium purpuratum

Cypripedium purpuratum

Cypripedium pusillum

Cypripedium reginae

Cypripedium reginae var. *album*

Cypripedium reichenbachianum

Cypripedium reichenbachii

Cypripedium reticulatum

Cypripedium robinsonii

Cypripedium roebelenii

Cypripedium roebelenii var. *cannartianum*

Cypripedium roezlii

Cypripedium rothschildianum

Cypripedium rubronerve

Cypripedium sanderianum

Cypripedium sargentianum

Cypripedium schlimii

Cypripedium schlimii var. *albiflorum*

Cypripedium schmidtianum

ACCEPTED NAMES

Cypripedium montanum
Cypripedium montanum
Paphiopedilum rothschildianum
Paphiopedilum barbatum
Paphiopedilum niveum
Paphiopedilum niveum
Cypripedium bardolphianum
Cypripedium montanum
Cypripedium guttatum

Selenipedium palmifolium

Paphiopedilum papuanum

Paphiopedilum venustum

Paphiopedilum parishii

Cypripedium parviflorum

Cypripedium parviflorum var.
pubescens

Cypripedium passerinum

Phragmipedium vittatum

Phragmipedium pearcei

Paphiopedilum dayanum

Paphiopedilum philippinense

Paphiopedilum philippinense

var. **roebelenii**

Paphiopedilum argus

Cypripedium parviflorum var.
pubescens

Paphiopedilum stonei var.
platytaenium

Paphiopedilum glanduliferum

Paphiopedilum glanduliferum

Cypripedium parviflorum var.
pubescens

Cypripedium parviflorum var.
makasin

Cypripedium franchetii

Paphiopedilum purpuratum

Paphiopedilum barbatum

Cypripedium fasciculatum

Cypripedium reginae

Phragmipedium longifolium

Phragmipedium longifolium

Phragmipedium reticulatum

Paphiopedilum bullenianum

Paphiopedilum philippinense
var. **roebelenii**

Paphiopedilum philippinense

Phragmipedium longifolium

Paphiopedilum rothschildianum

Cypripedium x ventricosum
(hybrid)

Paphiopedilum sanderianum

Phragmipedium lindleyanum

Phragmipedium schlimii

Phragmipedium schlimii

Paphiopedilum callosum

ALL NAMES

ACCEPTED NAMES

<i>Cypripedium schomburgkianum</i>	<i>Phragmipedium klotzschianum</i>
Cypripedium segawai	
Cypripedium shanxiense	
<i>Cypripedium sinicum</i>	<i>Paphiopedilum purpuratum</i>
<i>Cypripedium smithii</i>	<i>Cypripedium calcicolum</i>
<i>Cypripedium socco</i>	<i>Catasetum socco</i>
<i>Cypripedium speciosum</i>	<i>Cypripedium macranthos</i>
<i>Cypripedium spectabile</i>	<i>Cypripedium reginae</i>
<i>Cypripedium spectabile</i> var. <i>dayanum</i>	<i>Paphiopedilum dayanum</i>
<i>Cypripedium spicerianum</i>	<i>Paphiopedilum spicerianum</i>
<i>Cypripedium splendidum</i>	<i>Cypripedium irapeanum</i>
<i>Cypripedium stonei</i>	<i>Paphiopedilum stonei</i>
Cypripedium subtropicum	
<i>Cypripedium superbiens</i>	<i>Paphiopedilum superbiens</i>
<i>Cypripedium superbiens</i> var. <i>dayanum</i>	<i>Paphiopedilum dayanum</i>
<i>Cypripedium taibaiense</i>	<i>Cypripedium calcicolum</i>
<i>Cypripedium taiwanianum</i>	<i>Cypripedium macranthos</i>
<i>Cypripedium thunbergii</i>	<i>Cypripedium macranthos</i>
Cypripedium tibeticum	
<i>Cypripedium tonkinense</i>	<i>Paphiopedilum concolor</i>
<i>Cypripedium tonsum</i>	<i>Paphiopedilum tonsum</i>
<i>Cypripedium turgidum</i>	<i>Cypripedium irapeanum</i>
<i>Cypripedium undatum</i>	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>
<i>Cypripedium variegatum</i>	<i>Cypripedium guttatum</i>
<i>Cypripedium viganum</i>	<i>Cypripedium parviflorum</i> var. <i>pubescens</i>
<i>Cypripedium veitchianum</i>	<i>Paphiopedilum superbiens</i>
<i>Cypripedium venustum</i>	<i>Paphiopedilum venustum</i>
<i>Cypripedium venustum</i> var. <i>measuresianum</i>	<i>Paphiopedilum venustum</i>
<i>Cypripedium vernayi</i>	<i>Paphiopedilum wardii</i>
<i>Cypripedium victoria-mariae</i>	<i>Paphiopedilum victoria-mariae</i>
<i>Cypripedium victoria-regina</i>	<i>Paphiopedilum victoria-regina</i>
<i>Cypripedium villosum</i>	<i>Paphiopedilum villosum</i>
<i>Cypripedium villosum</i> var. <i>boxallii</i>	<i>Paphiopedilum villosum</i> var. <i>boxallii</i>
<i>Cypripedium virens</i>	<i>Paphiopedilum javanicum</i> var. <i>virens</i>
<i>Cypripedium vittatum</i>	<i>Phragmipedium vittatum</i>
<i>Cypripedium volonteantum</i>	<i>Paphiopedilum hookerae</i> var. <i>volonteantum</i>
<i>Cypripedium wallisii</i>	<i>Phragmipedium lindenii</i> var. <i>wallisii</i>
<i>Cypripedium waltersianum</i>	<i>Paphiopedilum appletonianum</i>
<i>Cypripedium wardianum</i>	<i>Paphiopedilum wardii</i>
Cypripedium wardii	
<i>Cypripedium wardii</i>	<i>Paphiopedilum wardii</i>
<i>Cypripedium warnerianum</i>	<i>Paphiopedilum barbatum</i>
<i>Cypripedium warszewiczianum</i>	<i>Phragmipedium caudatum</i>
<i>Cypripedium wilsonii</i>	<i>Cypripedium fasciculatum</i>
<i>Cypripedium wolterianum</i>	<i>Paphiopedilum appletonianum</i>
Cypripedium wumengense	
Cypripedium yatabeanum	
Cypripedium yunnanense	
<i>Cypripedium zhongdianense</i>	<i>Cypripedium farreri</i>

**PAPHIOPEDILUM – LIST OF ALL NAMES / PAPHIOPEDILUM – LISTE
COMPLÈTE DES NOMS / PAPHIOPEDILUM – LISTA DE TODOS LOS
NOMBRES**

ALL NAMES TOUS LES NOMS TODOS LOS NOMBRES	ACCEPTED NAME NOM ACCEPTÉS NOMBRES ACEPTADOS
Paphiopedilum acmodontum	
Paphiopedilum adductum	
<i>Paphiopedilum adductum</i> var. <i>anitum</i>	Paphiopedilum adductum
<i>Paphiopedilum aestivum</i>	Paphiopedilum purpuratum
<i>Paphiopedilum amabile</i>	Paphiopedilum bullenianum
<i>Paphiopedilum ambonensis</i>	Paphiopedilum bullenianum var. celebesense
<i>Paphiopedilum ang-thong</i>	Paphiopedilum godefroyae
<i>Paphiopedilum angustatum</i>	Paphiopedilum malipoense var. hiepii
<i>Paphiopedilum angustifolium</i>	Paphiopedilum appletonianum
<i>Paphiopedilum anitum</i>	Paphiopedilum adductum
Paphiopedilum appletonianum	
<i>Paphiopedilum appletonianum</i> f. <i>album</i>	Paphiopedilum appletonianum
<i>Paphiopedilum appletonianum</i> f. <i>immaculatum</i>	Paphiopedilum appletonianum
<i>Paphiopedilum appletonianum</i> var. <i>hainanense</i>	Paphiopedilum appletonianum
<i>Paphiopedilum appletonianum</i> var. <i>immaculatum</i>	Paphiopedilum appletonianum
<i>Paphiopedilum appletonianum</i> var. <i>poytzianum</i>	Paphiopedilum appletonianum
Paphiopedilum argus	
<i>Paphiopedilum argus</i> var. <i>sriwanae</i>	Paphiopedilum argus
Paphiopedilum armeniacum	
<i>Paphiopedilum armeniacum</i> f. <i>markii</i>	Paphiopedilum armeniacum
<i>Paphiopedilum armeniacum</i> var. <i>mark-fun</i>	Paphiopedilum armeniacum
<i>Paphiopedilum armeniacum</i> var. <i>markii</i>	Paphiopedilum armeniacum
<i>Paphiopedilum armeniacum</i> var. <i>parviflorum</i>	Paphiopedilum rmeniacum
<i>Paphiopedilum armeniacum</i> var. <i>undulatum</i>	Paphiopedilum armeniacum
<i>Paphiopedilum bacanum</i>	Paphiopedilum schoseri
Paphiopedilum barbatum	
<i>Paphiopedilum barbatum</i> subsp. <i>lawrenceanum</i>	Paphiopedilum barbatum
<i>Paphiopedilum barbatum</i> var. <i>argus</i>	Paphiopedilum argus
<i>Paphiopedilum barbatum</i> var. <i>hennisianum</i>	Paphiopedilum barbatum
<i>Paphiopedilum barbatum</i> var. <i>nigritum</i>	Paphiopedilum barbatum
Paphiopedilum barbigerum	
<i>Paphiopedilum barbigerum</i> f. <i>aureum</i>	Paphiopedilum barbigerum
<i>Paphiopedilum barbigerum</i> var. <i>aureum</i>	Paphiopedilum barbigerum
Paphiopedilum bellatulum	
<i>Paphiopedilum bellatulum</i> f. <i>album</i>	Paphiopedilum bellatulum
<i>Paphiopedilum bellatulum</i> var. <i>album</i>	Paphiopedilum bellatulum
<i>Paphiopedilum besseae</i>	Phragmipedium besseae
<i>Paphiopedilum birkii</i>	Paphiopedilum callosum var. sublaeve
<i>Paphiopedilum bodegomii</i>	Paphiopedilum wilhelminae
<i>Paphiopedilum boissierianum</i>	Phragmipedium boissierianum
Paphiopedilum bougainvilleanum	
<i>Paphiopedilum bougainvilleanum</i> var. <i>saskianum</i>	Paphiopedilum bougainvilleanum
<i>Paphiopedilum boxallii</i>	Paphiopedilum villosum var. boxallii
<i>Paphiopedilum braemii</i>	Paphiopedilum tonsium var. braemii
<i>Paphiopedilum brevilabium</i>	Paphiopedilum wardii
Paphiopedilum bullenianum	
Paphiopedilum bullenianum var. bullenianum	
Paphiopedilum bullenianum var. celebesense	

ALL NAMES	ACCEPTED NAMES
<i>Paphiopedilum bullenianum</i> var. <i>johorensis</i>	<i>Paphiopedilum bullenianum</i>
<i>Paphiopedilum burmanicum</i>	<i>Paphiopedilum wardii</i>
Paphiopedilum callosum	
<i>Paphiopedilum callosum</i> subsp. <i>sublaeve</i>	<i>Paphiopedilum callosum</i>
<i>Paphiopedilum callosum</i> var. <i>angustipetalum</i>	<i>Paphiopedilum callosum</i>
Paphiopedilum callosum var. callosum	
Paphiopedilum callosum var. potentianum	
<i>Paphiopedilum callosum</i> var. <i>schmidtianum</i>	<i>Paphiopedilum callosum</i>
<i>Paphiopedilum callosum</i> var. <i>sublaeve</i>	<i>Paphiopedilum callosum</i>
<i>Paphiopedilum callosum</i> var. <i>warnerianum</i>	<i>Paphiopedilum callosum</i>
<i>Paphiopedilum caobangense</i>	<i>Paphiopedilum tranlienianum</i>
<i>Paphiopedilum caricinum</i>	<i>Phragmipedium caricinum</i>
<i>Paphiopedilum caudatum</i>	<i>Phragmipedium caudatum</i>
<i>Paphiopedilum caudatum</i> var. <i>lindenii</i>	<i>Phragmipedium lindenii</i>
<i>Paphiopedilum caudatum</i> var. <i>wallisii</i>	<i>Phragmipedium wallisii</i>
<i>Paphiopedilum celebesense</i>	<i>Paphiopedilum bullenianum</i> var. <i>celebesense</i>
<i>Paphiopedilum ceramensis</i>	<i>Paphiopedilum bullenianum</i> var. <i>celebesense</i>
<i>Paphiopedilum cerveranum</i>	<i>Paphiopedilum appletonianum</i>
<i>Paphiopedilum cerveranum</i> f. <i>viride</i>	<i>Paphiopedilum appletonianum</i>
<i>Paphiopedilum chamberlainianum</i>	<i>Paphiopedilum victoria-regina</i>
<i>Paphiopedilum chamberlainianum</i> f. <i>primulinum</i>	<i>Paphiopedilum primulinum</i>
<i>Paphiopedilum chamberlainianum</i> f. <i>victoria-mariae</i>	<i>Paphiopedilum victoria-mariae</i>
<i>Paphiopedilum chamberlainianum</i> subsp. <i>liemianum</i>	<i>Paphiopedilum liemianum</i>
<i>Paphiopedilum chamberlainianum</i> var. <i>flavescens</i>	<i>Paphiopedilum primulinum</i> var. <i>purpurascens</i>
<i>Paphiopedilum chamberlainianum</i> var. <i>flavum</i>	<i>Paphiopedilum primulinum</i>
<i>Paphiopedilum chamberlainianum</i> var. <i>liemianum</i>	<i>Paphiopedilum liemianum</i>
<i>Paphiopedilum chamberlainianum</i> var. <i>primulinum</i>	<i>Paphiopedilum primulinum</i>
<i>Paphiopedilum chaoi</i>	<i>Paphiopedilum henryanum</i>
Paphiopedilum charlesworthii	
<i>Paphiopedilum charlesworthii</i> f. <i>crawshayae</i>	<i>Paphiopedilum charlesworthii</i>
<i>Paphiopedilum charlesworthii</i> f. <i>sandowiae</i>	<i>Paphiopedilum charlesworthii</i>
<i>Paphiopedilum chiwuanum</i>	<i>Paphiopedilum hirsutissimum</i> var. <i>chiwuanum</i>
Paphiopedilum ciliolare	
<i>Paphiopedilum ciliolare</i> var. <i>miteauanum</i>	<i>Paphiopedilum ciliolare</i>
Paphiopedilum coccineum	
Paphiopedilum concolor	
<i>Paphiopedilum concolor</i> f. <i>sulphurinum</i>	<i>Paphiopedilum concolor</i>
<i>Paphiopedilum concolor</i> subsp. <i>chlorophyllum</i>	<i>Paphiopedilum concolor</i>
<i>Paphiopedilum concolor</i> subsp. <i>reynieri</i>	<i>Paphiopedilum concolor</i>
<i>Paphiopedilum concolor</i> var. <i>dahuaense</i>	<i>Paphiopedilum concolor</i>
<i>Paphiopedilum concolor</i> var. <i>immaculatum</i>	<i>Paphiopedilum concolor</i>
<i>Paphiopedilum concolor</i> var. <i>niveum</i>	<i>Paphiopedilum niveum</i>
<i>Paphiopedilum cothurnum</i>	<i>Catasetum macrocarpum</i>
<i>Paphiopedilum crossii</i>	<i>Paphiopedilum barbatum</i>
<i>Paphiopedilum crossii</i> var. <i>potentianum</i>	<i>Paphiopedilum callosum</i> var. <i>potentianum</i>
<i>Paphiopedilum crossii</i> var. <i>sublaeve</i>	<i>Paphiopedilum callosum</i> var. <i>warnerianum</i>
<i>Paphiopedilum curtisii</i>	<i>Paphiopedilum superbiens</i>
<i>Paphiopedilum czerwiakowianum</i>	<i>Phragmipedium boissierianum</i> var. <i>czerwiakowianum</i>
<i>Paphiopedilum dariense</i>	<i>Phragmipedium longifolium</i>
Paphiopedilum dayanum	
<i>Paphiopedilum dayanum</i> var. <i>petri</i>	<i>Paphiopedilum dayanum</i>
Paphiopedilum delenatii	
<i>Paphiopedilum delenatii</i> f. <i>albinum</i>	<i>Paphiopedilum delenatii</i>
<i>Paphiopedilum delicatum</i>	<i>Paphiopedilum helenae</i>

ALL NAMES	ACCEPTED NAMES
<i>Paphiopedilum dennisii</i>	Paphiopedilum ventworthianum
<i>Paphiopedilum densissimum</i>	Paphiopedilum villosum
<i>Paphiopedilum devogelii</i>	Paphiopedilum supardii
Paphiopedilum dianthum	
<i>Paphiopedilum dilectum</i>	Paphiopedilum villosum var. boxallii
<i>Paphiopedilum dollii</i>	Paphiopedilum henryanum
Paphiopedilum druryi	
<i>Paphiopedilum ecuadorensse</i>	Phragmipedium pearcei
<i>Paphiopedilum elliottianum</i>	Paphiopedilum rothschildianum
<i>Paphiopedilum elliottianum</i> sensu Fowle	Paphiopedilum adductum
Paphiopedilum emersonii	
<i>Paphiopedilum emersonii</i> f. <i>luteum</i>	Paphiopedilum emersonii
<i>Paphiopedilum epidendricum</i>	Eulophia alta
<i>Paphiopedilum esquirolei</i>	Paphiopedilum hirsutissimum var. esquirolei
<i>Paphiopedilum exstaminodium</i>	Phragmipedium exstaminodium
Paphiopedilum exul	
Paphiopedilum fairrieianum	
<i>Paphiopedilum fairrieianum</i> f. <i>bohlmannianum</i>	Paphiopedilum fairrieianum
<i>Paphiopedilum fairrieianum</i> var. <i>bohlmannianum</i>	Paphiopedilum fairrieianum
<i>Paphiopedilum fairrieianum</i> var. <i>giganteum</i>	Paphiopedilum fairrieianum
<i>Paphiopedilum fairrieianum</i> var. <i>nigrescens</i>	Paphiopedilum fairrieianum
Paphiopedilum fowlicii	
<i>Paphiopedilum fowlicii</i> f. <i>christianae</i>	Paphiopedilum fowlicii
<i>Paphiopedilum fowlicii</i> f. <i>sangianum</i>	Paphiopedilum fowlicii
<i>Paphiopedilum fowlicii</i> var. <i>sangianum</i>	Paphiopedilum fowlicii
<i>Paphiopedilum gardineri</i> Guillemard	
<i>Paphiopedilum gardineri</i> sensu Kennedy non Guillemard	Paphiopedilum glanduliferum var. wilhelminae
Paphiopedilum gigantifolium	
Paphiopedilum glanduliferum	
<i>Paphiopedilum glanduliferum</i> var. <i>gardineri</i>	Paphiopedilum glanduliferum
<i>Paphiopedilum glanduliferum</i> var. <i>kimballianum</i>	Paphiopedilum glanduliferum
<i>Paphiopedilum glanduliferum</i> var. <i>praestans</i>	Paphiopedilum glanduliferum
<i>Paphiopedilum glanduliferum</i> var. <i>wilhelminae</i>	Paphiopedilum wilhelminae
Paphiopedilum glaucophyllum	
<i>Paphiopedilum glaucophyllum</i> f. <i>flavoviride</i>	Paphiopedilum glaucophyllum
Paphiopedilum glaucophyllum var. glaucophyllum	
Paphiopedilum glaucophyllum var. moquetteanum	
<i>Paphiopedilum globulosum</i>	Paphiopedilum micranthum
Paphiopedilum godefroyae	
Paphiopedilum godefroyae var. leucochilum	
<i>Paphiopedilum godefroyae</i> var. <i>ang-thong</i>	Paphiopedilum godefroyae
Paphiopedilum gratixianum	
<i>Paphiopedilum hainanense</i>	Paphiopedilum appletonianum
Paphiopedilum hangianum	
<i>Paphiopedilum hartwegii</i>	Phragmipedium longifolium
Paphiopedilum haynaldianum	
<i>Paphiopedilum haynaldianum</i> f. <i>album</i>	Paphiopedilum haynaldianum
Paphiopedilum helenae	
<i>Paphiopedilum helenae</i> f. <i>aureum</i>	Paphiopedilum helenae
Paphiopedilum hennisianum	
<i>Paphiopedilum hennisianum</i> f. <i>christiansenii</i>	Paphiopedilum hennisianum
<i>Paphiopedilum hennisianum</i> var. <i>christiansenii</i>	Paphiopedilum hennisianum
<i>Paphiopedilum hennisianum</i> var. <i>fowlicii</i>	Paphiopedilum fowlicii
Paphiopedilum henryanum	
<i>Paphiopedilum henryanum</i> f. <i>christae</i>	Paphiopedilum henryanum
<i>Paphiopedilum henryanum</i> var. <i>christae</i>	Paphiopedilum henryanum
Paphiopedilum herrmannii	
<i>Paphiopedilum hiepü</i>	Paphiopedilum jackii var. hiepü
<i>Paphiopedilum hilmarii</i>	Paphiopedilum vietnamense

ALL NAMES

Paphiopedilum hincksianum
Paphiopedilum hirsutissimum
Paphiopedilum hirsutissimum f. *viride*.....

Paphiopedilum hirsutissimum var. **chiwuanum**
Paphiopedilum hirsutissimum var. **esquirolei**
Paphiopedilum hirtzii.....

Paphiopedilum hookerae
Paphiopedilum hookerae f. *sandowiae*.....

Paphiopedilum hookerae subsp. *appletonianum*.....
Paphiopedilum hookerae var. *bullenianum*.....

Paphiopedilum hookerae var. **volonteatum**
Paphiopedilum huonglanae.....

Paphiopedilum insigne
Paphiopedilum insigne f. *sanderae*
Paphiopedilum insigne f. *sanderianum*
Paphiopedilum insigne var. *barbigerum*
Paphiopedilum insigne var. *exul*.....

Paphiopedilum intaniae
Paphiopedilum jackii

Paphiopedilum jackii var. **hiepii**
Paphiopedilum javanicum

Paphiopedilum javanicum f. *nymphenburgianum*.....
Paphiopedilum javanicum var. *nymphenburgianum*.....

Paphiopedilum javanicum var. **virens**
Paphiopedilum johorensis.....

Paphiopedilum kaieteurum.....
Paphiopedilum kalinae
Paphiopedilum klotzschianum.....

Paphiopedilum kolopakingii
Paphiopedilum laevigatum.....

Paphiopedilum lawrenceanum
Paphiopedilum lawrenceanum f. *hyeantum*.....
Paphiopedilum lawrenceanum var. *hyeantum*.....

Paphiopedilum leucochilum.....

Paphiopedilum liemianum
Paphiopedilum liemianum f. *purpurascens*.....

Paphiopedilum liemianum var. *primulinum*.....

Paphiopedilum lindenii.....
Paphiopedilum lindleyanum.....

Paphiopedilum linii.....
Paphiopedilum longifolium.....

Paphiopedilum lowii
Paphiopedilum lowii f. *aureum*.....
Paphiopedilum lowii var. *aureum*.....

Paphiopedilum lowii var. *lynniae*.....
Paphiopedilum lowii var. *richardianum*.....

Paphiopedilum lynniae
Paphiopedilum macfarlanei.....

Paphiopedilum malipoense
Paphiopedilum malipoense f. *concolor*.....
Paphiopedilum malipoense f. *tonnianum*.....

Paphiopedilum malipoense f. *virescens*.....
Paphiopedilum malipoense var. *hiepii*.....
Paphiopedilum malipoense var. *jackii*.....

Paphiopedilum markianum.....

Paphiopedilum mastersianum
Paphiopedilum mastersianum var. **mohrianum**
Paphiopedilum micranthum

ACCEPTED NAMES

Phragmipedium longifolium

Paphiopedilum hirsutissimum
var. **esquirolei**

Phragmipedium hirtzii

Paphiopedilum hookerae var.
volonteatum

Paphiopedilum appletonianum

Paphiopedilum bullenianum

Paphiopedilum emersonii

Paphiopedilum insigne

Paphiopedilum insigne

Paphiopedilum barbigerum

Paphiopedilum exul

Paphiopedilum javanicum

Paphiopedilum javanicum

Paphiopedilum bullenianum

Phragmipedium lindleyanum

Paphiopedilum victoria-regina

Phragmipedium klotzschianum

Paphiopedilum philippinense

Paphiopedilum lawrenceanum

Paphiopedilum lawrenceanum

Paphiopedilum godefroyae var.
leucochilum

Paphiopedilum primulinum var.
purpurascens

Paphiopedilum primulinum

Phragmipedium lindenii

Phragmipedium lindleyanum

Paphiopedilum bullenianum

Paphiopedilum longifolium

Paphiopedilum lowii

Paphiopedilum lowii

Paphiopedilum lynniae

Paphiopedilum richardianum

Paphiopedilum insigne

Paphiopedilum malipoense

Paphiopedilum malipoense

Paphiopedilum malipoense

Paphiopedilum jackii var. **hiepii**

Paphiopedilum jackii

Paphiopedilum tigrinum

ALL NAMES

Paphiopedilum micranthum f. *alboflavum*
Paphiopedilum micranthum f. *glanzeanum*
Paphiopedilum micranthum subsp. *eburneum*
Paphiopedilum micranthum var. *alboflavum*
Paphiopedilum micranthum var. *glanzeanum*
Paphiopedilum microchilum
Paphiopedilum mirabile
Paphiopedilum mohrianum

Paphiopedilum moquetteanum

Paphiopedilum nicholsonianum

Paphiopedilum nigratum

Paphiopedilum niveum

Paphiopedilum niveum f. *album*

Paphiopedilum ooii

Paphiopedilum orbum

Paphiopedilum papuanum

Paphiopedilum pardinum

Paphiopedilum parishii

Paphiopedilum parishii var. *dianthum*

Paphiopedilum parnatanum

Paphiopedilum paulistanum

Paphiopedilum pearcei

Paphiopedilum petri

Paphiopedilum philippinense

Paphiopedilum philippinense f. *alboflavum*

Paphiopedilum philippinense f. *album*

Paphiopedilum philippinense var. *cannartianum*

Paphiopedilum philippinense var. *roebelenii***Paphiopedilum platyphyllum**

Paphiopedilum potentianum

Paphiopedilum praestans

Paphiopedilum praestans subsp. *wilhelminae*

Paphiopedilum praestans var. *wilhelminae*

Paphiopedilum praestans var. *kimballianum*

Paphiopedilum primulinum**Paphiopedilum primulinum** var. *purpurascens*

Paphiopedilum puberulum

Paphiopedilum purpurascens

Paphiopedilum purpuratum

Paphiopedilum purpuratum var. *hainanense*

Paphiopedilum randsii

Paphiopedilum reflexum

Paphiopedilum regnieri

Paphiopedilum reticulatum

Paphiopedilum rhizomatosum

Paphiopedilum richardianum

Paphiopedilum robinsonii

Paphiopedilum robinsonii f. *viride*

Paphiopedilum roebelenii

Paphiopedilum roezlii

Paphiopedilum rothschildianum

Paphiopedilum rothschildianum var. *elliottianum*

Paphiopedilum saccopetalum

Paphiopedilum sanderianum**Paphiopedilum sangii****ACCEPTED NAMES**

Paphiopedilum micranthum

Paphiopedilum micranthum

Paphiopedilum micranthum

Paphiopedilum micranthum

Paphiopedilum micranthum

Paphiopedilum wardii

Paphiopedilum vietnamense

Paphiopedilum mastersianum

var. **mohrianum**

Paphiopedilum glaucophyllum

var. **moquetteanum**

Paphiopedilum rothschildianum

Paphiopedilum barbatum

Paphiopedilum niveum

Paphiopedilum callosum

Paphiopedilum venustum

Paphiopedilum parishii

Paphiopedilum usitanum

Phragmipedium vittatum

Phragmipedium pearcei

Paphiopedilum dayanum

Paphiopedilum philippinense

Paphiopedilum philippinense

Paphiopedilum philippinense

Paphiopedilum callosum var.
potentianum

Paphiopedilum glanduliferum

Paphiopedilum wilhelminae

Paphiopedilum wilhelminae

Paphiopedilum glanduliferum

Paphiopedilum appletonianum

Paphiopedilum javanicum var.
virens

Paphiopedilum purpuratum

Paphiopedilum callosum

Paphiopedilum callosum

Phragmipedium reticulatum

Paphiopedilum lowii var.

richardaianum

Paphiopedilum bullenianum

Paphiopedilum appletonianum

Paphiopedilum philippinense

var. **roebelenii**

Phragmipedium longifolium

Paphiopedilum rothschildianum

Paphiopedilum hirsutissimum

var. **esquirelei**

ALL NAMES	ACCEPTED NAMES
<i>Paphiopedilum sargentianum</i>	Phragmipedium lindleyanum
<i>Paphiopedilum schlimii</i>	Phragmipedium schlimii
Paphiopedilum schoseri	
<i>Paphiopedilum singchii</i>	Paphiopedilum hangianum
<i>Paphiopedilum sinicum</i>	Paphiopedilum purpuratum
<i>Paphiopedilum smaragdinum</i>	Paphiopedilum tigrinum
<i>Paphiopedilum socco</i>	Catasetum socco
Paphiopedilum spicerianum	
<i>Paphiopedilum spicerianum</i> f. <i>immaculatum</i>	Paphiopedilum spicerianum
<i>Paphiopedilum sriwanae</i>	Paphiopedilum argus
Paphiopedilum stonei	
<i>Paphiopedilum stonei</i> subsp. <i>stictopetalum</i>	Paphiopedilum spicerianum x stonei (hybrid)
<i>Paphiopedilum striatum</i>	Paphiopedilum wilhelminae
<i>Paphiopedilum sublaeve</i>	Paphiopedilum callosum var. warnerianum
Paphiopedilum sugiyamanum	
Paphiopedilum sukhakulii	
<i>Paphiopedilum sukhakulii</i> f. <i>aureum</i>	Paphiopedilum sukhakulii
Paphiopedilum supardii	
Paphiopedilum superbiens	
<i>Paphiopedilum superbiens</i> f. <i>sanderae</i>	Paphiopedilum superbiens
<i>Paphiopedilum superbiens</i> subsp. <i>ciliolare</i>	Paphiopedilum ciliolare
<i>Paphiopedilum superbiens</i> var. <i>curtisii</i>	Paphiopedilum superbiens
<i>Paphiopedilum superbiens</i> var. <i>sanderae</i>	Paphiopedilum superbiens
<i>Paphiopedilum thailandense</i>	Paphiopedilum callosum var. sublaeve
Paphiopedilum tigrinum	
Paphiopedilum tonsum	
<i>Paphiopedilum tonsum</i> f. <i>alboviride</i>	Paphiopedilum tonsum
Paphiopedilum tonsum var. braemii	
<i>Paphiopedilum topperi</i>	Paphiopedilum kolopakingii
<i>Paphiopedilum tortipetalum</i>	Paphiopedilum bullenianum
Paphiopedilum tranlienianum	
<i>Paphiopedilum tridentatum</i>	Paphiopedilum appletonianum
Paphiopedilum urbanianum	
<i>Paphiopedilum urbanianum</i> f. <i>alboviride</i>	Paphiopedilum urbanianum
Paphiopedilum usitanum	
<i>Paphiopedilum veitchianum</i>	Paphiopedilum superbiens
<i>Paphiopedilum vejvarutianum</i>	Paphiopedilum rhizomatosum
Paphiopedilum venustum	
<i>Paphiopedilum venustum</i> f. <i>measuresianum</i>	Paphiopedilum venustum
<i>Paphiopedilum venustum</i> f. <i>pardinum</i>	Paphiopedilum venustum
<i>Paphiopedilum venustum</i> var. <i>bhutanensis</i>	Paphiopedilum venustum
<i>Paphiopedilum venustum</i> var. <i>pardinum</i>	Paphiopedilum venustum
<i>Paphiopedilum venustum</i> var. <i>rubrum</i>	Paphiopedilum venustum
<i>Paphiopedilum venustum</i> var. <i>teestaensis</i>	Paphiopedilum venustum
<i>Paphiopedilum</i> 'victoria'.....	Paphiopedilum supardii
Paphiopedilum victoria-mariae	
Paphiopedilum victoria-regina	
<i>Paphiopedilum victoria-regina</i> f. <i>purpurascens</i>	Paphiopedilum primulinum var. purpurascens
<i>Paphiopedilum victoria-regina</i> subsp. <i>chamberlainianum</i>	Paphiopedilum victoria-regina
<i>Paphiopedilum victoria-regina</i> subsp. <i>glaucophyllum</i>	Paphiopedilum glaucophyllum
<i>Paphiopedilum victoria-regina</i> subsp. <i>liemianum</i>	Paphiopedilum liemianum
<i>Paphiopedilum victoria-regina</i> subsp. var. <i>primulinum</i>	Paphiopedilum primulinum
<i>Paphiopedilum victoria-regina</i> var. <i>kalinae</i>	Paphiopedilum victoria-regina
<i>Paphiopedilum victoria-regina</i> var. <i>moquetteanum</i>	Paphiopedilum glaucophyllum var. moquetteanum
Paphiopedilum vietnamense	
Paphiopedilum villosum	

ALL NAMES*Paphiopedilum villosum* f. *annamense**Paphiopedilum villosum* f. *aureum**Paphiopedilum villosum* var. *affine***Paphiopedilum villosum var. annamense****Paphiopedilum villosum var. boxallii***Paphiopedilum villosum* var. *gratrixianum**Paphiopedilum viniferum***Paphiopedilum violascens***Paphiopedilum violascens* var. *bougainvilleanum**Paphiopedilum violascens* var. *gautierense**Paphiopedilum violascens* var. *saskianum**Paphiopedilum virens**Paphiopedilum vittatum**Paphiopedilum volonteantum**Paphiopedilum volonteantum* f. *sandowiae**Paphiopedilum wallisii***Paphiopedilum wardii***Paphiopedilum wardii* f. *alboviride**Paphiopedilum wardii* var. *alboviride**Paphiopedilum warszewiczianum**Paphiopedilum wenshanense***Paphiopedilum wentworthianum****Paphiopedilum wilhelminae***Paphiopedilum wolterianum**Paphiopedilum xerophyticum**Paphiopedilum zieckianum***ACCEPTED NAMES****Paphiopedilum villosum** var. **annamense****Paphiopedilum villosum****Paphiopedilum** × **affine** (**P. appletonianum** × **P. villosum**)**Paphiopedilum gratrixianum****Paphiopedilum callosum****Paphiopedilum****bougainvilleanum****Paphiopedilum violascens****Paphiopedilum****bougainvilleanum** var.**saskianum****Paphiopedilum javanicum** var. **virens****Phragmipedium vittatum****Paphiopedilum hookerae** var. **volonteantum****Paphiopedilum hookerae** var. **volonteantum****Phragmipedium wallisii****Paphiopedilum wardii****Paphiopedilum wardii****Phragmipedium caudatum****Paphiopedilum bellatulum****Paphiopedilum appletonianum****Mexipedium xerophyticum****Paphiopedilum papuanum**

ALL NAMES

ACCEPTED NAMES

**PHRAGMIPEDIUM – LIST OF ALL NAMES / PHRAGMIPEDIUM –
LISTE COMPLÈTE DES NOMS / PHRAGMIPEDIUM – LISTA DE
TODOS LOS NOMBRES**

ALL NAMES

ACCEPTED NAME

TOUS LES NOMS

NOM ACCEPTÉS

TODOS LOS NOMBRES

NOMBRES ACEPTADOS

Mexipedium xerophyticumFormerly known as *Phragmipedium xerophyticum* this taxon remains on CITES Appendix I**Phragmipedium besseae***Phragmipedium besseae* f. *flavum* **Phragmipedium besseae****Phragmipedium besseae** var. **dalessandroi***Phragmipedium besseae* var. *flavum* **Phragmipedium besseae****Phragmipedium boissierianum****Phragmipedium boissierianum** var. **czerwiakowianum****Phragmipedium boissierianum** var. **reticulatum***Phragmipedium brasiliense* **Phragmipedium vittatum***Phragmipedium cajamarcae* **Phragmipedium boissierianum****Phragmipedium caricinum****Phragmipedium caudatum***Phragmipedium caudatum* var. *lindenii* **Phragmipedium lindenii** subsp. **lindenii***Phragmipedium caudatum* var. *wallisii* **Phragmipedium lindenii** subsp. **wallisii***Phragmipedium caudatum* var. *warscewiczianum* **Phragmipedium exstaminodium** subsp. **warscewiczii***Phragmipedium chapadense* **Phragmipedium longifolium** var. **chapadense***Phragmipedium christiansenianum* **Phragmipedium longifolium***Phragmipedium czerwiakowianum* **Phragmipedium boissierianum** var. **czerwiakowianum***Phragmipedium dalessandroi* **Phragmipedium besseae** var. **dalessandroi***Phragmipedium dariense* **Phragmipedium longifolium***Phragmipedium ecuadorensis* **Phragmipedium pearcei****Phragmipedium exstaminodium****Phragmipedium exstaminodium** subsp. **exstaminodium****Phragmipedium exstaminodium** subsp. **warscewiczii****Phragmipedium fischeri***Phragmipedium hartwegii* **Phragmipedium longifolium***Phragmipedium hartwegii* f. *baderi* **Phragmipedium longifolium***Phragmipedium hartwegii* var. *baderi* **Phragmipedium longifolium***Phragmipedium hincksianum* **Phragmipedium longifolium****Phragmipedium hirtzii***Phragmipedium humboldtii* **Phragmipedium exstaminodium** subsp. **warscewiczii***Phragmipedium humboldtii* subsp. *exstaminodium* **Phragmipedium exstaminodium** subsp. **exstaminodium***Phragmipedium kaieteurum* **Phragmipedium lindleyanum** var. **kaieteurum****Phragmipedium kovackii****Phragmipedium klotzschianum****Phragmipedium lindenii****Phragmipedium lindenii** subsp. **lindenii****Phragmipedium lindenii** subsp. **wallisii****Phragmipedium lindleyanum****Phragmipedium lindleyanum** var. **kaieteurum****Phragmipedium longifolium**

<i>Phragmipedium longifolium</i> f. <i>gracile</i>	Phragmipedium longifolium
<i>Phragmipedium longifolium</i> f. <i>minutum</i>	Phragmipedium longifolium
<i>Phragmipedium longifolium</i> var. <i>darienense</i>	Phragmipedium longifolium
<i>Phragmipedium longifolium</i> var. <i>gracile</i>	Phragmipedium longifolium
<i>Phragmipedium longifolium</i> var. <i>hincksianum</i>	Phragmipedium longifolium
<i>Phragmipedium longifolium</i> var. <i>roezlii</i>	Phragmipedium longifolium
Phragmipedium pearcei	
<i>Phragmipedium pearcei</i> var. <i>ecuadorensis</i>	Phragmipedium pearcei
<i>Phragmipedium peruvianum</i>	Phragmipedium kovachii
<i>Phragmipedium portillae</i>	Phragmipedium richteri
<i>Phragmipedium popowii</i>	Phragmipedium exstaminodium subsp. <i>warszewiczii</i>
<i>Phragmipedium reticulatum</i>	Phragmipedium boissierianum
Phragmipedium richteri	
<i>Phragmipedium roezlii</i>	Phragmipedium longifolium
<i>Phragmipedium sargentianum</i>	Phragmipedium lindleyanum
Phragmipedium schlimii	
<i>Phragmipedium schlimii</i> f. <i>albiflorum</i>	Phragmipedium schlimii
<i>Phragmipedium schlimii</i> var. <i>albiflorum</i>	Phragmipedium schlimii
Phragmipedium tetzlaaffianum	
Phragmipedium vittatum	
<i>Phragmipedium wallisii</i>	Phragmipedium lindenii subsp. <i>wallisii</i>
Phragmipedium warszewiczianum	
<i>Phragmipedium xerophyticum</i>	Mexipedium xerophyticum