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

_____

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

Interpretation and implementation of the Convention

Species trade and conservation

REPORTING ON TRADE IN ARTIFICIALLY PROPAGATED PLANTS [DECISION 14.40 (REV. COP16)]

1. This document has been prepared by the Secretariat.

Background

2. At its 16th meeting (CoP16, Bangkok, 2013), the Conference of the Parties adopted the following revisions of decisions:

Directed to the Secretariat

14.39 (Rev. CoP16) *The Secretariat shall, subject to available funding, in consultation with the UNEP World Conservation Monitoring Centre:*

a) conduct a survey of reporting practices of Parties relating to trade in artificially propagated plants of taxa included in Appendix II, e.g. regarding the degree of completeness and detail;

b) identify cases where the compilation of trade data pertaining to artificially propagated plants of taxa included in Appendix II has contributed to a significant extent to the detection of illegal trade or to any other analysis related to the conservation of wild flora;

c) taking into consideration the results of paragraphs a) and b) above, analyse the Convention text and Resolutions in order to identify binding and non-binding elements of reporting, with special emphasis on artificially propagated plants of taxa included in Appendix II. The Secretariat shall list options for streamlining such reporting; and

d) report on its findings to the Plants Committee prior to its 21st meeting.

Directed to the Plants Committee

14.40 (Rev. CoP16) *The Plants Committee shall, after considering the report of the Secretariat:*

a) determine whether there are any taxa of Appendix-II plants artificially propagated for which detailed reporting is less valuable; and

b) report its findings to the Standing Committee at its 65th meeting.

Directed to the Standing Committee

14.41 (Rev. CoP16) *The Standing Committee shall:*

a) taking into consideration the findings of the Plants Committee, determine whether it is possible to streamline the reporting of trade in artificially propagated Appendix-II plants; and

b) report on its findings at the 17th meeting of the Conference of the Parties and submit draft wording to amend Resolutions concerned, where appropriate.

3. The original text on which the above Decisions were based was adopted by the Conference of the Parties at its 14th meeting (The Hague, 2007) and revised at the 15th meeting (Doha, 2010), and again at CoP16. The funds required for the implementation of the study called for in Decision 14.39 (Rev. CoP15), paragraph a), were obtained in February 2012, thanks to a generous contribution from the CITES Management Authority of Switzerland.

4. The Secretariat contracted the UNEP World Conservation Monitoring Centre (UNEP-WCMC) to conduct the study referred to above and to provide information to respond to the questions raised in paragraphs b) and c) of the Decision. UNEP-WCMC started to collect information at the 20th meeting of the Plants Committee (PC20, Dublin, March 2012), and sought further information by means of a questionnaire circulated with Notification to the Parties No. 2012/032 of 28 March 2012. After reviews and revisions, the report of the study was completed in September 2013.

5. Annex 1 to the present document contains an executive summary of the report. Annex 2 contains a number of suggested options proposed by UNEP-WCMC that may be considered in accordance with paragraph c) of Decision. A copy of the full report is attached as Annex 3, in English only (the language in which it was prepared).

Reporting practices of Parties

6. The attached report of UNEP-WCMC contains a summary of the practices of Parties in reporting trade in artificially propagated plants of Appendix-II species. The Secretariat wishes to highlight the following in particular:

   a) Considerable variation exists in practice among Parties on taxonomic levels of reporting. In a number of cases, Parties do not report at the level recommended in the *Guidelines for the preparation and submission of CITES annual reports*, as urged by the Conference of the Parties in Resolution Conf. 11.17 (Rev. CoP16). At least one country has significantly reduced the reporting burden by reporting at the level at which species are included in the Appendices;

   b) Some Parties do not report on trade that is authorized with phytosanitary certificates in accordance with Resolution Conf. 12.3 (Rev. CoP16), on *Permits and certificates*, section VII, *Regarding phytosanitary certificates;*

   c) Otherwise, the reporting practices of Parties appear broadly consistent with the *Guidelines for the preparation and submission of CITES annual reports*.

7. It should be noted however that, for reasons of budgetary constraints, the Secretariat's contract with UNEP-WCMC does not require the inclusion in the CITES Trade Database of data on trade in artificially propagated plants of Appendix-II taxa if they are not reported electronically. Consequently, examination of these data in the Trade Database does not provide a complete picture.

Contribution to the detection of illegal trade or to other analysis related to the conservation of wild flora

8. The report of UNEP-WCMC contains a useful summary and analysis of information on seizures of artificially propagated plants included in the annual and biennial reports of Parties. It also indicates that there is a considerable body of literature recording illegal trade in plants, especially in those cases where there was no CITES export permit or where wild plants were declared to be artificially propagated. It is not

clear, however, whether the information on the illegal trade in these studies resulted from an examination of the trade data.

9. The report of UNEP-WCMC contains no direct information on the use of the annual report data as a basis for detecting illegal trade, or for other analyses related to the conservation of flora. Moreover, the Secretariat does not have any information on the use of the trade data for these purposes.

10. In Resolution Conf. 11.11 (Rev. CoP15) on *Regulation of trade in plants*, the Conference of the Parties recommends that enforcing agencies utilize annual reports, among other sources of information, to detect possible illegal trade. However, as most annual reports are submitted 6 to 10 months after the period they cover, it would not be surprising if annual reports were not much used for this purpose. This implies that the data in each report would refer to shipments that had taken place between 6 and 22 months previously. However, if the trade data were being examined for any reason and, if it were found that there were indications that illegal trade might have taken place, these data should be passed to the appropriate Management Authorities for further investigation.

Binding and non-binding elements of reporting

11. The only binding obligation on Parties in relation to the submission of an annual report containing data on trade is to be found in Article VIII, paragraph 7(a), of the Convention. It requires each Party to transmit to the Secretariat:

    (a) an annual report containing a summary of the information specified in subparagraph (b) of paragraph 6 of this Article.

    In addition, Article VIII, paragraph 6.(b) specifies:

    (b) the number and type of permits and certificates granted; the States with which such trade occurred; the numbers or quantities and types of specimens, names of species as included in Appendices I, II and III and, where applicable, the size and sex of the specimens in question.

12. The non-binding recommendations of the Conference of the Parties are contained in Resolutions that the Conference has adopted. Three of these Resolutions are of particular relevance:

    a) Resolution Conf. 11.17 (Rev. CoP16) on *National reports:*

    In this Resolution, the Conference of the Parties urges Parties to submit their annual reports in accordance with the *Guidelines for the preparation and submission of CITES annual reports*. The most recent version of these Guidelines was published with Notification to the Parties No. 2011/019 of 17 February 2011 and is available at: http://www.cites.org/eng/notif/2011/E019A.pdf.

    The Guidelines themselves specify, in the section on 'Specific instructions', that:

    Regarding plants, Parties should:

    i) make every effort to report trade in CITES-listed plants at the species level or, if this is impossible for those taxa included in the Appendices by family, at the generic level; however, artificially propagated Appendix-II orchid hybrids may be reported as such;

    ii) distinguish in their annual reports between plant specimens of wild and of artificially propagated origin ...

    b) Resolution Conf. 11.11 (Rev. CoP15) on *Regulation of trade in plants*:

    In the preamble, the Conference of the Parties observes:

    that certain Parties that authorize export of large quantities of artificially propagated plants need to find ways of reducing paperwork while maintaining protection for wild plants, and helping exporters of artificially propagated plants to understand and to comply with the requirements of the Convention.

c) Resolution Conf. 12.3 (Rev. CoP16)

In this Resolution, in section VII, 'Regarding phytosanitary certificates', the Conference of the Parties:

RECOMMENDS that:

a) any Party having considered the practices governing the issue of its phytosanitary certificates for export of artificially propagated Appendix-II specimens, and having determined that such practices provide adequate assurance that the specimens are artificially propagated [as defined in Resolution Conf. 11.11 (Rev. CoP15), may consider these documents as certificates of artificial propagation in accordance with Article VII, paragraph 5. Such certificates must include the scientific name of the species and the type and quantity of the specimens and bear a stamp, seal or their electronic equivalent, or other specific indication stating that the specimens are artificially propagated as defined by CITES;

b) any Party using phytosanitary certificates as certificates of artificial propagation inform the Secretariat and provide copies of the certificates, stamps, seals, etc. that are used; and

c) phytosanitary certificates be used exclusively for the purpose of export from the country of artificial propagation of the specimens concerned.

The consequence of this is that when phytosanitary certificates are used to authorize the export of artificially propagated Appendix-II plants, the data on this trade must be included in the annual report.

Options for streamlining reporting

13. When considering the possibility of streamlining the reporting of trade in artificially propagated plants of Appendix-II species, there are a number of factors to keep in mind:

a) There is an obligation to submit a report containing, as a minimum, the information indicated in paragraph 11 above;

b) The reporting burden on Parties is considerable and every effort should be made to keep it to a minimum;

c) The automated (or semi-automated) production of annual reports from electronic permitting systems should significantly reduce the burden of preparing these reports;

d) The data on trade included in annual reports can be useful for monitoring the implementation of the Convention, in particular for discerning trends in the volumes and patterns of trade and for providing possible indicators of significant levels of trade or of illegal trade;

e) Trade in genuinely artificially propagated specimens, as defined in Resolution Conf. 11.11 (Rev. CoP15), should be of less concern than trade in wild-taken specimens, as it has a smaller impact on the conservation of the species. However, if the level of detail of reporting of trade in artificially propagated specimens is reduced, it is important to ensure that this has no negative impact on the regulation of trade in wild-taken plants.

14. Annex 2 to the present document contains four options identified by UNEP-WCMC to reduce the burden of reporting on trade in artificially propagated plants of Appendix-II species.

15. The Secretariat believes that, of the options provided in Annex 2, option 1 would provide the most comprehensive means to reduce the reporting burden on Parties. This approach would be to report trade in artificially propagated specimens of Appendix-II plants at the same taxonomic level at which they are included in the CITES Appendices. If this were agreed, reporting of trade in artificially propagated specimens of cacti species included in Appendix II, for example, would be summarized under Cactaceae spp., because this higher taxon is included in Appendix II. This does not imply that the names used on permits and certificates would be at a higher taxonomic level.

16. The Standing Committee has established a Working Group on Special Reporting Requirements, which is considering all of the reporting obligations of Parties, as well as the recommendations to report that are contained in Resolutions and Decisions of the Conference of the Parties. This Working Group is reporting to the Plants Committee at the present meeting and will report at the 65th meeting of the Standing

Committee. The Secretariat believes that it would be appropriate for this Working Group (in which UNEP-WCMC participates) to consider, and select workable options for, streamlining the reporting of trade in artificially propagated plants of Appendix-II species. In so doing, it should take into account the contents of the present document, including the full report of UNEP-WCMC in Annex 3.

Recommendations

17. As there is a working group that is taking a holistic view of the reporting requirements of Parties, with a view to streamlining them, the Secretariat recommends that the Plants Committee agree to the following:

    The Plants Committee recommends that the Standing Committee amend the terms of reference of the Working Group on Special Reporting Requirements to include consideration of whether the reporting of trade in artificially propagated plants of Appendix-II species can be streamlined and, if so, how. It should take into account the contents of the document PC21 Doc.16.

18. In accordance with Decision 14.40 (Rev. CoP16), the Plants Committee is also obliged to consider whether there are any Appendix-II taxa of plants for which detailed reporting of trade in artificially propagated specimens “is less valuable”, and to report its findings to the Standing Committee. The Secretariat believes that these findings will be helpful to the Working Group on Special Reporting Requirements in completing its review.

Executive summary of the
Study of reporting on trade in artificially propagated plants
of taxa included CITES Appendix II

by UNEP World Conservation Monitoring Centre

1. This report was developed to assist with implementation of Decision 14.39 (Rev. CoP15). It provides:

   a) an analysis of the degree and consistency with which CITES Parties report on trade in artificially propagated plants of taxa included in Appendix II;

   b) identification of potential evidence for illegal trade in such specimens from CITES national reports; and

   c) identification of the existing binding and non-binding elements of reporting for plant species listed in Appendix II.

2. Trade in artificially propagated specimens of plant species listed in Appendix II of the Convention is substantial, with approximately 668 million live plants reported as (re-)exported during the period 2001-2010, in addition to many parts and derivatives (dried plants, stems, roots, powder, medicines etc.). The data provided by countries of import indicate a higher level of trade (892 million live plants). Much of the difference between import and export figures can be explained by the lack of annual report data on (re-) exports from Taiwan, Province of China (according to data from countries of import, these exports totalled almost 377 million plants).

3. The Guidelines for the preparation and submission of CITES annual reports (Notification to the Parties 20011/19 of 17/02/11) specify that trade in plants should be reported at the species level, but where this is not possible, it can be reported at the generic level for taxa included in the CITES Appendices by family, or where the specimens are artificially propagated Appendix II orchid hybrids.

4. Reporting by Parties on trade in artificially propagated plants of taxa included in Appendix II is inconsistent. Some Parties indicate that they do not report trade authorized with phytosanitary certificates (Denmark and Norway), whilst other Parties indicate that they report trade at different taxonomic levels than specified in the Convention text and guidelines. Also, trade in artificially propagated plants of taxa included in Appendix II that is not reported electronically, is not required to be entered into the CITES Trade Database according to the database management contract with the CITES Secretariat.

5. Differences in the taxonomic level of reporting appear to account for the majority of variation in reporting on trade in artificially propagated plants of taxa included in Appendix II. Countries of import tend to report trade at a higher taxonomic level than countries of export. For example, the United States of America reports taxa at the level at which they are listed in the CITES Appendices (e.g. Orchidaceae for Appendix-II-listed orchids). Otherwise, reporting of trade in Appendix II artificially propagated plants appears to be broadly consistent with the recommendations in the Guidelines for the preparation and submission of CITES annual reports relating to inclusion of source and purpose codes.

6. Reporting trade in artificially propagated plants of taxa included in Appendix II can be burdensome, according to two Parties that responded to the questionnaire and one of these Parties has adopted a streamlined reporting protocol.

7. Seizures of live plants, parts or derivatives were reported by 93 Parties during the period 2006-2010, according to data within the CITES Trade Database. This included, over 94,000 live plants of taxa included in Appendix II reported as seized (source “I”). Suspected illegal trade in orchids was most prevalent; with 79% of seizures in live Appendix II plants of the family Orchidaceae. More than 60% of the seizure data for live plants were reported at the level of genus or family. Approximately three-quarters of the seizures originated in the CITES geographic region of Asia.

8. As the origin (artificially propagated, wild etc) of seized material is not reported in the CITES Trade database it is rarely possible to infer suspected illegal trade in artificially propagated plants from this data source. Currently, only one source code can be included in the CITES trade the database and seizures are included under source code “I”. However, over 25,000 seized specimens were hybrid specimens of

Appendix II plant species and thus were likely to have been artificially propagated. Moreover, for the ten taxa most commonly reported as seized for 2006-2010, virtually all of the legal trade (as reported in the CITES Trade Database) was in specimens produced by artificial propagation rather than wild-collected.

9. Biennial reports represent another source of data on confiscations/seizures of plant taxa and 13 Parties presented such information in their 2007-2008 reports. Cactaceae spp., was the family most highly represented in seizures data according to Biennial reports, whilst both Orchidaceae spp. and Cactaceae spp., were well represented according to published literature and other reports consulted. More than 80% of the seizure data for live plants were reported at the level of genus or family in biennial reports. However, further analysis of biennial report information on illegal trade was not possible as the information was inconsistent and incomplete. The quality of the information could be improved through more comprehensive guidance on completion of the biennial report questions.

10. There is very little evidence to suggest that trade in individual species has moved from wild to artificially propagated sources during the ten years for which data was examined, except possibly for *Cyclamen cilicium*. However, it appears that many new taxa are emerging in trade as artificially propagated, with 326 taxa meeting a “sharp increase in trade” criterion for 2009 or 2010 (the taxon was reported at trade levels of three times the average volume for the five preceding years). The list of emerging taxa could be provided to the Plants Committee for them to advise whether, on the basis of expert opinion, exports are likely to be in accordance with Resolution Conf. 11.11 (Rev. CoP13), meeting the definition of artificially propagated.

11. A number of options are presented for consideration by the Plants Committee as a means to streamline the reporting of Appendix II artificially propagated plants, thereby reducing the reporting burden. These options focus on the feasibility of reporting at higher taxon levels, whilst retaining the requirement to report on a shipment-by-shipment basis (i.e. details of each exporting and importing country).

Options for the Plants Committee to consider in relation to revised reporting of trade in artificially propagated plants listed in Appendix II

by UNEP World Conservation Monitoring Centre

Strict control of the trade in Appendix II artificially propagated plants appears to put a significant burden on implementation of the reporting requirements of the Convention for Parties that have a high volume of trade in these taxa, according to some questionnaire responses.

Four options to streamline reporting for Appendix II artificially propagated plants are provided below for consideration by the Plants Committee, with a view to revising the current guidelines regarding the accepted taxonomic level of reporting.

There is only a very small percentage of reports that do not include the information outlined in Resolution Conf. 12.3 (Rev. CoP15) - for example, inclusion of source and purpose codes, type of specimen (term), quantity in trade, and country of import and (re-export). Whilst reporting this information on a shipment-by-shipment basis is likely to be a burden for Parties, it can contribute to tracking changes in trends over time and it is therefore recommended that the Plants Committee consider retaining this guidance in conjunction with the potential options outlined below.

The options presented below, aim to reduce the reporting burden on Parties, whilst retaining the ability to monitor emerging trends and implementation of the Convention. It would also be possible to follow a combination of these possible approaches.

1. **Adopt the United States approach of reporting taxa of Appendix II artificially propagated plants according to their taxonomic level of listing in the CITES Appendices, whether it be at family, genus or species level.**

   Using this method, species included in the Appendices at the genus or family level are recorded at that level, so specimens of Orchidacae are recorded as Orchidaceae spp. This approach may have some benefits in that it is already tried and tested by one major importer which has implemented it for over 10 years. As the majority of the trade in artificially propagated plant taxa is in species that are listed at the family level (all Orchidaceae, Cactaceae and Cycadaceae) this would be a significant change in reporting. However, it is also noteworthy that the United States does retain species-specific information on file should further scrutiny be necessary.

   The downside of adopting the approach of recording at higher taxon level is that it apparently contravenes the requirement of the Convention to report on specimens of species included in Appendices I, II and III (Article VIII, paragraph 7 (a), and Paragraph 6 (b)). Also, in cases where taxa are traded as both artificially propagated plants and plants taken from the wild the detailed species-level information will no longer be available to detect unusual patterns of trade that may indicate implementation problems relating to unsustainable trade and/or illicit trade.

2. **Report trade at a higher taxonomic level for all re-exports of artificially propagated specimens of Appendix-II species**

   According to the view that resources of CITES Authorities should be concentrated on specimens that first appear in international trade, species-level reporting may be less valuable for any subsequent re-exports of Appendix II artificially propagated plants. If this were found to be the case, trade in re-exports could be reported at either the genus or family level, provided that the re-exports are clearly distinguished from direct exports within annual reports by indication of the country of origin.

   The limitations of this approach are i) it would not streamline reporting for a substantial proportion of the trade as the proportion of total trade in live specimens of species listed in Appendix II that is reportedly re-exported, (as indicated by inclusion of country of origin data in annual reports) is only 2.2% and 2.6% as reported by countries of import and countries of export, 2006-2010; ii) the evidential basis to support concentration on the first specimens that appear in trade is not clear.

3. **Report trade at genus level for hybrids only**

The trade in hybrids represents a substantial proportion of the trade in artificially propagated plants (23% as reported by exporters, 2006-2010). There are no naturally occurring wild populations of hybrids listed on the CITES Appendices (i.e. they are all produced by methods of artificial propagation). As noted in PC14 Doc 8.1, referring to orchids specifically, the trade in artificially propagated hybrid orchids presents no discernible direct threat to wild orchid populations. Detailed reporting of trade in hybrids is therefore likely to be less valuable.

All hybrids could be reported at the level of genus, or at the level of family where intrageneric hybrids are concerned. Currently, inclusion of intergeneric hybrids within the CITES Trade Database is at the family level due to limitations of the database.

The benefit of this simple approach is that it would be relatively straightforward for Parties to implement. The current reporting exemption for only orchid hybrids may cause confusion, as some Parties report at the genus level for all orchid hybrids, and some Parties use this approach for all plant hybrids. Orchids do make up the vast majority of hybrids reported in trade (>99% according to export data, 2006-2010). The main limitation of this approach is that it would not streamline reporting for a substantial proportion of the trade.

4. **Provide detailed reports for newly described taxa and artificially propagated taxa that are not regularly found in trade or are emerging in trade. Taxa found regularly in trade could be reported at the genus/family level**

This approach suggests that detailed reports (at the species level) would be required for:

– newly described species (as determined by the Plants Committee)

– taxa that have not previously been exported from a country as artificially propagated (in order to ensure that emerging trade trends continue to be captured)

Detailed annual reports (at the species level) would not be required for species included in a list of taxa regularly found in trade as artificially propagated (based on levels of trade of over 100 specimens for 8 of the 10 most recent years, traded for commercial purposes). These taxa, along with all hybrids and re-exports could be reported at the family level. A list of species that are determined to be regularly occurring within trade, and for which reporting could be at the genus or family level, can be provided on request if necessary.

A list could be circulated to Parties in the form of a notification or included within the Guidelines for the preparation and submission of annual reports. It would need to be updated fairly regularly (at least annually) to take account of emerging trade trends.

The difficulty with this approach is again, that it would require Parties to consult an extensive list of species that would change over time, unless Parties are able to automate such processes in the context of tools such as electronic issue of permits.

Additional observations

To maximise the utility of seizure data within biennial reports for further analysis of trends etc., guidelines for standardisation of the data will be required. It is recommended that the CITES Standing Committee (perhaps through its Working Group on Special Reporting Requirements consider a standardised format for seizure reporting within biennial reports.

A total of 76% of live plants reported as confiscated or seized originated from the Asian Region (as defined by CITES), this corresponds to the percentage of legal trade from Asia. Continued vigilance with regard to plant trade from the Asian Region is recommended.

Parties that are developing electronic permitting systems that are capable of automated data exchange (e.g. via XML) may in future be able to submit their permit data directly for inclusion of annual report data within the CITES Trade Database. If Parties require full details of shipments for electronic permitting purposes, then, providing full details of all shipments of artificially propagated Appendix II plant trade should not present a reporting burden for Parties. The burden will remain for Parties without such electronic systems.

Parties currently considering data exchange tools (webservices) may wish to participate in the UNEP-WCMC EPIX project (Electronic Permit Information Exchange), which allows other CITES Parties to query and exchange CITES Permit data over the internet in near-real time. This system could potentially be explored to test the feasibility of electronic capture of permit data to streamline annual reporting with regard to artificially propagated specimens of species included in Appendix II.

The launch of the automated checklist of CITES species in 2013 may help to address the issue raised by Parties that consistent reporting of CITES standard nomenclature is problematic for artificially propagated plants, by providing a rapid search facility.

Study of Reporting on Trade in Artificially Propagated Plants of Taxa included CITES Appendix II

CITES Project No. S-394

September 2013

CITATION UNEP-WCMC (2013). *Study of Reporting of Trade in Artificially Propagated Plants of Taxa included in CITES Appendix II.* CITES Secretariat, Geneva.

PREPARED FOR CITES Secretariat, Geneva, Switzerland by the United Nations Environment Programme World Conservation Monitoring Centre.

DISCLAIMER

The contents of this report do not necessarily reflect the views or policies of CITES, UNEP or contributory organisations. The designations employed and the presentations do not imply the expressions of any opinion whatsoever on the part of CITES, UNEP or contributory organisations concerning the legal status of any country, territory, city or area or its authority, or concerning the delimitation of its frontiers or boundaries.

ACKNOWLEDGEMENT

The CITES Secretariat is grateful to the Government of Switzerland for funding this study.

ABOUT UNEP-WORLD CONSERVATION MONITORING CENTRE

The UNEP World Conservation Monitoring Centre (UNEP-WCMC), based in Cambridge, UK, is the specialist biodiversity information and assessment centre of the United Nations Environment Programme (UNEP), run cooperatively with WCMC, a UK charity.

UNEP World Conservation Monitoring Centre
219 Huntingdon Road
Cambridge
CB3 0DL
United Kingdom
Tel: +44 (0) 1223 277314
Fax: +44 (0) 1223 277136
Email: species@unep-wcmc.org

Website: www.unep-wcmc.org

Contents

Summary

1. This report was developed to assist with implementation of Decision 14.39 (Rev. CoP15). It provides:
    - an analysis of the degree and consistency with which CITES Parties report on trade in artificially propagated plants of taxa included in Appendix II;
    - identification of potential evidence for illegal trade in such specimens from CITES national reports; and
    - identification of the existing binding and non-binding elements of reporting for plant species listed in Appendix II.

2. Trade in artificially propagated specimens of plant species listed in Appendix II of the Convention is substantial, with approximately 668 million live plants reported as (re-)exported during the period 2001-2010, in addition to many parts and derivatives (dried plants, stems, roots, powder, medicines etc.). The data provided by countries of import indicate a higher level of trade (892 million live plants). Much of the difference between import and export figures can be explained by the lack of annual report data on (re-)exports from Taiwan, Province of China (according to data from countries of import, these exports totalled almost 377 million plants).

3. The Guidelines for the preparation and submission of CITES annual reports (Notification to the Parties 20011/19 of 17/02/11) specify that trade in plants should be reported at the species level, but where this is not possible, it can be reported at the generic level for taxa included in the CITES Appendices by family, or where the specimens are artificially propagated Appendix II orchid hybrids.

4. Reporting by Parties on trade in artificially propagated plants of taxa included in Appendix II is inconsistent. Some Parties indicate that they do not report trade authorized with phytosanitary certificates (Denmark and Norway), whilst other Parties indicate that they report trade at different taxonomic levels than specified in the Convention text and guidelines. Also, trade in artificially propagated plants of taxa included in Appendix II that is not reported electronically, is not required to be entered into the CITES Trade Database according to the database management contract with the CITES Secretariat.

5. Differences in the taxonomic level of reporting appear to account for the majority of variation in reporting on trade in artificially propagated plants of taxa included in Appendix II. Countries of import tend to report trade at a higher taxonomic level than countries of export. For example, the United States of America reports taxa at the level at which they are listed in the CITES Appendices (e.g. Orchidaceae for Appendix-II-listed orchids). Otherwise, reporting of trade in Appendix II artificially propagated plants appears to be broadly consistent with the recommendations in the *Guidelines for the preparation and submission of CITES annual reports* relating to inclusion of source and purpose codes.

6. Reporting trade in artificially propagated plants of taxa included in Appendix II can be burdensome, according to two Parties that responded to the questionnaire and one of these Parties has adopted a streamlined reporting protocol.

7. Seizures of live plants, parts or derivatives were reported by 93 Parties during the period 2006-2010, according to data within the CITES Trade Database. This included,

over 94,000 live plants of taxa included in Appendix II reported as seized (source "I"). Suspected illegal trade in orchids was most prevalent; with 79% of seizures in live Appendix II plants of the family Orchidaceae. More than 60% of the seizure data for live plants were reported at the level of genus or family. Approximately three-quarters of the seizures originated in the CITES geographic region of Asia.

8. As the origin (artificially propagated, wild etc) of seized material is not reported in the CITES Trade database it is rarely possible to infer suspected illegal trade in artificially propagated plants from this data source. Currently, only one source code can be included in the CITES trade the database and seizures are included under source code "I". However, over 25,000 seized specimens were hybrid specimens of Appendix II plant species and thus were likely to have been artificially propagated. Moreover, for the ten taxa most commonly reported as seized for 2006-2010, virtually all of the legal trade (as reported in the CITES Trade Database) was in specimens produced by artificial propagation rather than wild-collected.

9. Biennial reports represent another source of data on confiscations/seizures of plant taxa and 13 Parties presented such information in their 2007-2008 reports. Cactaceae spp., was the family most highly represented in seizures data according to Biennial reports, whilst both Orchidaceae spp. and Cactaceae spp., were well represented according to published literature and other reports consulted. More than 80% of the seizure data for live plants were reported at the level of genus or family in biennial reports. However, further analysis of biennial report information on illegal trade was not possible as the information was inconsistent and incomplete. The quality of the information could be improved through more comprehensive guidance on completion of the biennial report questions.

10. There is very little evidence to suggest that trade in individual species has moved from wild to artificially propagated sources during the ten years for which data was examined, except possibly for *Cyclamen cilicium*. However, it appears that many new taxa are emerging in trade as artificially propagated, with 326 taxa meeting a "sharp increase in trade" criterion for 2009 or 2010 (the taxon was reported at trade levels of three times the average volume for the five preceding years). The list of emerging taxa could be provided to the Plants Committee for them to advise whether, on the basis of expert opinion, exports are in likely to be accordance with Resolution Conf. 11.11 (Rev. CoP13), meeting the definition of artificially propagated .

11. A number of options are presented for consideration by the Plants Committee as a means to streamline the reporting of Appendix II artificially propagated plants, thereby reducing the reporting burden. These options focus on the feasibility of reporting at higher taxon levels, whilst retaining the requirement to report on a shipment-by-shipment basis (i.e. details of each exporting and importing country).

Introduction

In accordance with Article VIII of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Parties are required to submit annual reports detailing the trade that they have permitted in species listed in the CITES Appendices. The data from these reports are entered into the CITES Trade Database, managed by UNEP-WCMC under contract to the CITES Secretariat. CITES trade data are an important tool for tracking the trade which occurs under the Convention and monitoring implementation of the Convention, and may also facilitate the detection of potentially detrimental or illicit trade.

Reporting of trade in plant specimens should follow the *Guidelines for the preparation and submission of CITES annual reports* distributed with CITES Notification to the Parties No. 2011/019 (17/02/11). However, questions have been raised concerning the value and efficacy of this reporting in relation to trade in artificially propagated plants of taxa included in Appendix II (see CoP14 Doc.30). An analysis of the current reporting requirements and recommendations was deemed appropriate (CoP14 Doc 30) in order to consider ways of streamlining reporting, minimising burdens for national authorities and focusing reporting on species with conservation needs.

As a result, Parties to CITES adopted Decision 14.39 (Rev. CoP15) directed to the Secretariat, in consultation with UNEP WCMC, to:

a) conduct a survey of reporting practices of Parties relating to trade in artificially propagated plants of taxa included in Appendix II, e.g. regarding the degree of completeness and detail;

b) identify cases where the compilation of trade data pertaining to artificially propagated plants of taxa included in Appendix II has contributed to a significant extent to the detection of illegal trade or to any other analysis related to the conservation of wild flora;

c) taking into consideration the results of paragraphs a) and b) above, analyse the Convention text and Resolutions in order to identify binding and non-binding elements of reporting, with special emphasis on artificially propagated plants of taxa included in Appendix II.

This report aims to assist the CITES Secretariat in implementation of Decision 14.39 (Rev, CoP15). It provides an analysis of the degree and consistency with which CITES Parties report on trade in artificially propagated of taxa included in Appendix II, identifies any potential evidence for illegal trade in such specimens from CITES national reports, published literature and other reports, and identifies the existing binding and non-binding elements of reporting of artificially propagated plants of taxa included in Appendix II.

A number of potential options are suggested as a means to reduce the reporting burden for Parties in relation to trade in artificially propagated plants of taxa included in Appendix II. These options may assist the Plants Committee in assessing whether there are any Appendix II taxa for which reporting at the species level is less valuable and might be replaced by reporting at higher taxonomic levels.

Methodology

Trade data were extracted from the CITES Trade Database for specimens of plant species listed in Appendix II with source codes "A" (artificially propagated), "W" (wild) and "I" (confiscated/seized) for the ten years 2001-2010. However, where data on artificially propagated plants of taxa included in Appendix II are not provided electronically by Parties, the Secretariat does not require UNEP-WCMC to enter these data manually into the Database. Consequently, data for artificially propagated plants of taxa included in Appendix II are incomplete.

Activities addressing objective a) to assess completeness of Party reporting practices:

To assess the degree of detail and completeness of current reporting practices for artificially propagated plants of taxa included in Appendix II, trade data were examined against the recommendations concerning the standardisation of CITES permits and certificates (as outlined in Resolution Conf. 12.3 (Rev. CoP15)–Permits and Certificates and Annex 1 of this resolution. In particular, this assessment focussed on the use of the full species name or a higher taxon, source and purpose code, type of specimen (term), quantity in trade, and country of import and export/re-export for the five years 2006-2010.

A sample of non-electronic reports (provided as printed permits) was consulted to determine the effect of not including reports in the CITES Trade Database where data on artificially propagated Appendix II plants was not provided electronically. Permits for three Parties (Guyana, Peru and Suriname) which had not provided one or more annual reports in an electronic format for the years 2006-2010 were consulted. It was not possible to conduct a complete ten year review of reporting practices for these Parties within the time available, as this would have required consultation with an additional 43 hard copy reports (provided as permits) for the years 2001-2005.

Correspondence received by UNEP-WCMC from Parties regarding their annual reports was referred to for the year 2010, in order to gain additional information on annual reporting practices which refer specifically to artificially propagated plants.

A questionnaire was devised to gather information on the practices of Parties in the reporting of trade in artificially propagated plants of species in CITES Appendix II, and to provide an opportunity for Parties to identify and describe any problems they had encountered in reporting such trade. The questionnaire was translated into the three working languages of the Convention and distributed at the 20th meeting of the Plants Committee (Ireland, March 2012) and also circulated to Parties with Notification to the Parties No. 2012/032 (28/03/12). Parties were urged to respond within the deadline (30/04/2012), approximately one month after circulation. The questionnaire is provided in Annex A.

Activities addressing objective b): to identify where compilation of trade data has enabled detection of illegal trade

To identify any taxa frequently reported with regard to suspected illegal trade, data on seizures of artificially propagated plants of species listed in Appendix II contained within both CITES annual reports for the period 2006-2010 and biennial reports for the period 2007-2008 were analysed.

Any changes in trade patterns or discrepancies in the reporting by exporting and importing countries were noted for Appendix II taxa that have been reported in trade as artificially propagated (e.g. shifts in source codes reported over time, emerging trade in taxa, trade where the exporter is not a range State).

A short literature review to gather additional information on the existence and extent of illegal trade in artificially propagated Appendix II species was conducted. Searches used a number of online resources (ISI Web of Knowledge[1], Google Scholar and Google) in May 2012 to find relevant literature on suspected or proven cases of illegal trade in artificially propagated plants of species listed in CITES Appendix II. Searches were also made using the TRAFFIC (a non-governmental organization) Publication Search[2].

Key search terms included "illegal trade artificially propagated Appendix II species" and "illegal trade artificially propagated plants". Searches were also performed to identify papers on the illegal trade in wild plant taxa using Google Scholar. Search terms used related to top plant taxa reported as confiscated or seized during the period 2006-2010 and top plant species exported as live specimens during the period 1996-2010 (e.g. "illegal trade *Phalaenopsis* spp."). Reported seizures of plant species were noted from the TRAFFIC Bulletin Seizures and Prosecutions Section dating back to 1999.

Parties' current practices for reporting illegal trade in national reports, as well as any other evidence of illegal trade provided by Parties in response to the questionnaire, were also summarised.

Activities addressing objective c): to identify binding and non-binding elements of reporting

Reporting requirements relevant to Appendix II artificially propagated plants were summarised and categorised as either binding or non-binding, consulting the Convention text and Resolutions. Observations on reporting practices and the existing requirements of the Convention were made.

Definitions

This report does not consider artificially propagated specimens of species listed in Appendix I which may be deemed to be specimens of species included in Appendix II for the purposes of facilitating trade in accordance with Article VII, paragraph 4 of the Convention. These specimens remain specimens of species in Appendix I and trade should be reported accordingly. Any trade of this nature, but not reported in this way, is included in the CITES Trade Database as trade in specimens of species listed in Appendix I by UNEP-WCMC.

[1] http://apps.webofknowledge.com
[2] http://www.traffic.org/search-publications

Summary of recent trade in artificially propagated specimens of plant species listed in Appendix II

To provide some context for the overall analysis contained in this report and in particular with regard to illegal trade, a brief summary of legal trade in artificially propagated plants listed in CITES Appendix II is provided for the ten year period 2001-2010. As the trade is principally in live specimens reported in number (rather than by weight) this is the main focus of the short summary of data from the CITES Trade Database presented in this section.

The total volume of live specimens of plant species listed in Appendix II (re-)exported between 2001 and 2010 was almost 970 million specimens as reported by countries of export. Artificially propagated specimens represented approximately 69% of this trade, with over 668 million live plants reported (re-) exported, with the remainder of the trade in specimens originating from the wild. Trade reported by countries of import was substantially higher with a total of 892 million artificially propagated, live specimens of Appendix II plant species reported in trade. This difference can be explained by the fact that according to country of import reported data, Taiwan, Province of China is the source of exports totalling almost 377 million plants; however, the annual reports of China do not include data on the trade of Taiwan, Province of China.

The total volume of trade in live, artificially propagated specimens of plant species listed in Appendix II peaked in 2006 according to country of export-reported data, and in 2008 according to country of import-reported data, and then subsequently decreased (Figures 1ai and 1bi). There has been some indication of a shift in the source of trade in live Appendix II plants in trade over the ten-year period 2001-2010, with the proportion of artificially propagated specimens showing an increase, according to data reported by both country of export and country of import (Figure 1aii).

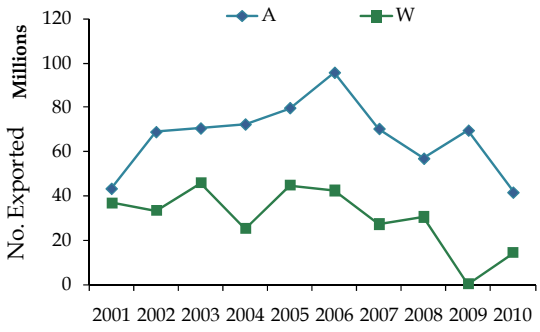

Figure 1ai. Trade in live, artificially propagated ('A') and wild-sourced ('W') plants listed in CITES Appendix II reported by exporters, 2001-2010. All trade reported in number rather than by weight.

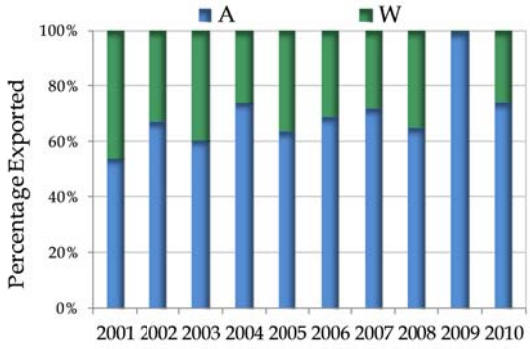

Figure 1aii. The proportion of trade in lives plants listed in CITES Appendix II reported by exporters 2001-2010 as artificially propagated ('A') and wild sourced ('W'). All trade reported in number rather than by weight.

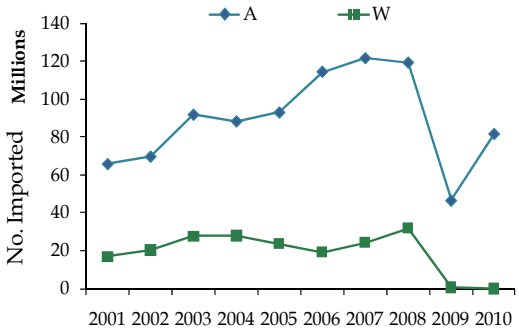

Figure 1bi. Trade in live, artificially propagated ('A') and wild-sourced ('W') plants listed in CITES Appendix II reported by importers, 2001-2010. All trade reported in number rather than by weight.

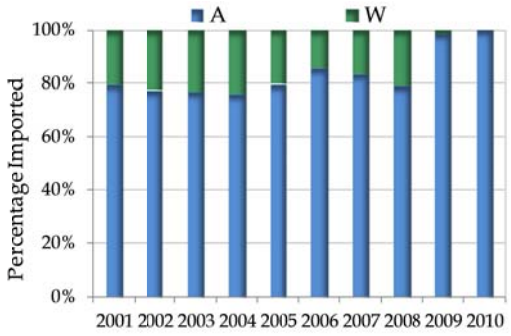

Figure 1bii. The proportion of trade in live plants listed in CITES Appendix II reported by importers 2001-2010 that is artificially propagated ('A') and wild-sourced ('W'). All trade reported in number rather than by weight.

A total of 38 families and over 10,200 taxa were reported as artificially propagated for Appendix II specimens during the period 2001-2010, as reported by countries of export. The three families that accounted for the majority of trade, were Orchidaceae, Cactaceae and Cycadaceae. The proportions of trade in artificially propagated specimens (excluding trade reported by weight) contributed by these families differed depending on whether the trade was reported by countries of export or countries of import. According to data reported by countries of export, Orchidaceae represented 52% of the trade, Cactaceae represented 20% of trade, and Cycadaceae, represented a further 9% (Figure 2). In comparison, the relative percentages as reported by countries of import were 75% for Orchidaceae, 8% for Cactaceae and 6% for Cycadaceae. Much of this difference is due to the lack of reporting of exports from Taiwan Province of China, which specialises in production of Orchidaceae.

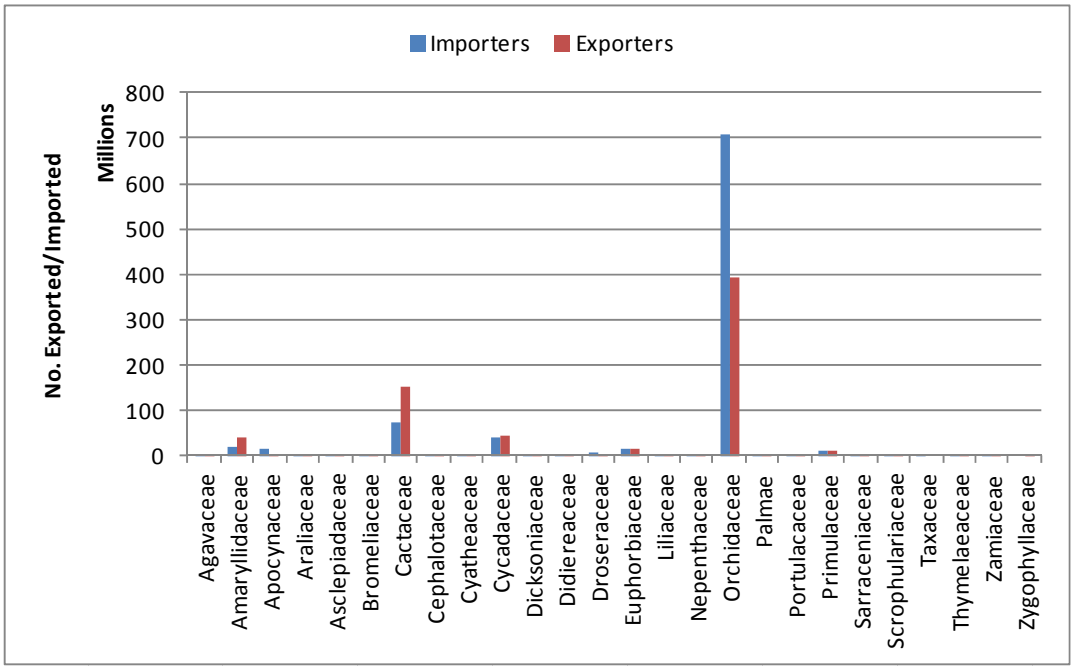

Figure 2. Trade in artificially propagated Appendix II live plants as reported by exporters and importers 2001-2010 (main families only).

The ten most common artificially-propagated Appendix II-listed species in trade are presented in Table 1. In many cases there are notable differences between data reported by countries of export and those reported by countries of import. Discrepancies in volume of trade between the reports of countries of import and the countries of export cannot be accounted for by differences in the source code reported by the different trading partners (reporting 'A' as 'W' or vice versa).

Table 1. The ten most common artificially-propagated Appendix II-listed species in trade and total volume of trade reported as source 'A' and source 'W' (including only trade reported without a unit, and excluding timber and timber derivatives), 2001-2010.

Species	**Reported by**	**A**	**W**
Cycas revoluta	Exporter	65,700,832	10
(Cycad)	Importer	42,662,976	277
Hoodia gordonii	Exporter	47,480,975	45,596,820
(Bitter ghaap)	Importer	35,310,025	15,046,424
Cymbidium sinense	Exporter	15,703,721	
(Ink orchid)	Importer	28,108,037	42
Cymbidium aloifolium	Exporter	35,463	
(Orchid)	Importer	18,791,031	40
Cymbidium ensifolium	Exporter	2,649,693	
(Common fragrant cymbidium)	Importer	17,740,575	51
Galanthus nivalis	Exporter	27,774,985	2,250
(Common snowdrop)	Importer	9,112,481	1,500
Cyclamen hederifolium	Exporter	9,650,758	9,961,617
(Sowbread)	Importer	8,249,126	9,471,146
Gymnocalycium mihanovichii	Exporter	46,457,697	
(Cactus)	Importer	6,576,686	
Sternbergia lutea	Exporter	7,912,201	5,520
(Common sternbergia)	Importer	5,610,143	6,895
Hylocereus undatus	Exporter	22,708,624	600
(Cactus)	Importer	5,491,648	600

The ten most commonly traded plant taxa represented 16% of the trade in live artificially propagated plants listed in Appendix II during 2001-2010 as reported by importers. Although some taxa such as *Cycas revoluta* and *Cymbidium* spp. were highly traded over the entire ten years, there have been some shifts in the composition of taxa traded. *Phalaenopsis* emerged as the most highly traded genus of artificially propagated live plants listed in Appendix II in recent years (2006-2010), representing a third of all trade in this five year period compared to only 13% between 2001 and 2005 (Tables 2 and Figure 3). In addition to trade reported as *Phalaenopsis* spp. or *Phalaenopsis* hybrid, 429 species in the genus were reported in trade by exporters. Many of the highly traded genera in recent trade (*Cymbidium*, *Dendrobium*, and *Phalaenopsis*) naturally occur in the Asian region. Of all legal trade in live artificially propagated orchids 2001-2010, 95% was exported from Asia.

Table 2. The top 10 plant taxa in recent trade as live individuals of artificially propagated plants listed in Appendix II, 2006-2010, as reported by countries of import and export.

Taxon	**Total live artificially propagated plants listed in Appendix II reported by countries of import**		**Total live artificially propagated plants listed in Appendix II reported by countries of export**	
	Quantity	%	Quantity	%
Cymbidium spp. Orchid	103957882	21.5	10869577	3.3
Orchidaceae hybrid	97673474	20.2		
Orchidaceae spp. Orchid	41822233	8.6		
Dendrobium spp. Orchid	22535333	4.7	23895555	7.2
Phalaenopsis hybrid. Orchid	20876991	4.3	50372569	15.1
Phalaenopsis spp. Orchid	19991090	4.1	60830937	18.2
Cymbidium sinense Orchid	18010055	3.7	8840268	2.6
Cycas revolute Cycad	17476682	3.6	27047652	8.1
Cactaceae spp. Cacti	17122608	3.5	9307682	2.8
Cymbidium ensifolium Orchid	16101379	3.3		
Gymnocalycium mihanovichii Cycad			19096745	5.7
Hylocereus undatus Cacti			17469001	5.2
Dendrobium hybrid Orchid			17249121	5.2

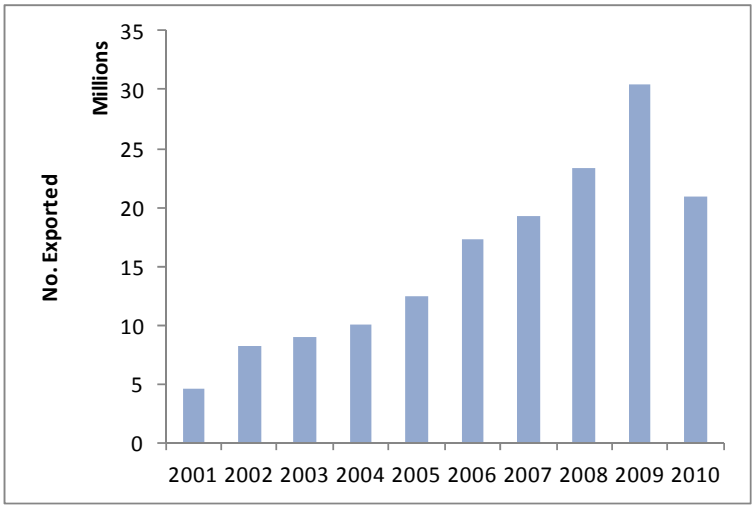

Figure 3. Reported exports of live artificially propagated *Phalaenopsis* spp. 2001-2010. The apparent decline in 2010 may be due to incomplete reporting.

A total of 83 Parties reported (re-)exports of live Appendix II-artificially propagated plants during 2001-2010. Specimens in trade principally originated in Thailand, and China (including Taiwan, province of China). The proportion of this trade originating in China was 28% according to data reported by country of export and 9% according to data reported by country of import, whilst 42% of the trade originated in Taiwan Province of China, according to data

reported by country of import. The proportion of trade originating in Thailand was 28% to 26% according to data from country of export and country of import, respectively.

The principal importers of live, artificially propagated plants listed in Appendix II were the United States of America (hereafter referred to as the United States), the Netherlands and the Republic of Korea, accounting for 24%, 21% and 14% of exporter-reported trade, respectively, and 27%, 10% and 38% of importer-reported trade, respectively. Corresponding to the main importers, re-exporters of live artificially propagated Appendix II plants 2001-2010 were predominantly the Republic of Korea, Turkey, the United States and the Netherlands.

CITES reporting requirements relevant to Appendix II artificially propagated plants

The Convention text, Resolutions and valid Notifications were consulted to identify binding and non-binding elements of reporting for reporting trade in artificially propagated Appendix II plants. The relevant legally-binding and non-binding elements are summarised in Table 3a.

Table 3a. Reporting requirements and other measures relevant to Appendix II artificially propagated plants.

Reporting Requirements	**Type**	**Basis**	**Comments**
Annual and Biennial reports	Legally binding	Article VIII, paragraph 7 of the Convention text	Annual reports should contain a summary of information specified in sub-paragraph (b) para 6 of Article VIII: the number and type of permits and certificates granted; the States with which such trade occurred; the number or quantities and types of specimens, the names of the species as included in Appendices I, II and III, and where applicable, the size and sex of the specimens in question.
Annual Reports	Not legally binding	Resolution Conf. 11.17 (Rev. CoP14) National Reports and Notification to the Parties 2011/019 – *Guidelines for preparation of CITES annual reports*	Parties are urged to complete annual reports in accordance with the *Guidelines for the preparation of CITES annual reports:* • Parties should make every effort to report trade in CITES-listed plants at the species level or, if this is impossible for those taxa included in the Appendices by family, at the generic level; however, artificially propagated Appendix II orchid hybrids may be reported as such. • Parties should distinguish in their annual reports between plant specimens of wild and of artificially propagated origin.
Other relevant Resolutions			
Use of phytosanitary certificates as export permits		Resolution Conf. 12.3 (Rev. CoP15) - Permits and Certificates	Parties having considered the practices governing the issue of their phytosanitary certificates for export of artificially propagated Appendix II specimens, and having determined that such practices provide adequate assurance that the specimens are artificially propagated [as defined in Resolution Conf. 11.11 (Rev. CoP15)], may consider these documents as certificates of artificial propagation in accordance with Article VII, paragraph 5. Such certificates must include the scientific name of the species, the type and quantity of the specimens, bear a stamp, seal or their electronic equivalent, or other specific indication stating that the specimens are artificially propagated as defined by CITES. They may be used exclusively for the purpose of export from the country of artificial propagation of the specimens concerned
Regulation of trade in plants	Not legally binding	Resolution Conf. 11.11 (Rev. CoP15)	Observes that certain Parties that authorize export of large quantities of artificially propagated plants need to find ways of reducing paperwork while maintaining protection for wild plants and help exporters of artificially propagated plants to comply with the Convention. This Resolution also provides the definition of "artificially propagated".

In addition to the requirements and guidelines outlined in Table 3, the Appendices, also contain certain exclusions for artificially propagated specimens of certain taxa of live plants included in Appendix II when certain conditions apply (see Table 3b). The higher taxa with exclusions for certain taxa include: Cactaceae, Orchidaceae, Cyclamen spp. and the species: *Taxus cuspidata*.

Table 3b. Taxa for which exclusions from the provisions of CITES apply under conditions.

Cacataceae: Artificially propagated specimens of the following hybrids and/or cultivars are not subject to the provisions of the Convention: – *Hatiora* x *graeseri* – *Schlumbergera* x *buckleyi* – *Schlumbergera russelliana* x *Schlumbergera truncata* – *Schlumbergera orssichiana* x *Schlumbergera truncata* – *Schlumbergera opuntioides* x *Schlumbergera truncata* – *Schlumbergera truncata* (cultivars) – Cactaceae spp. colour mutants, grafted on the following grafting stocks: *Harrisia* 'Jusbertii', *Hylocereus trigonus* or *Hylocereus undatus* – *Opuntia microdasys* (cultivars).
Orchidaceae: Artificially propagated hybrids of the following genera are not subject to the provisions of the Convention, if conditions, as indicated under a) and b), are met: *Cymbidium*, *Dendrobium*, *Phalaenopsis* and *Vanda*: a) Specimens are readily recognizable as artificially propagated and do not show any signs of having been collected in the wild such as mechanical damage or strong dehydration resulting from collection, irregular growth and heterogeneous size and shape within a taxon and shipment, algae or other epiphyllous organisms adhering to leaves, or damage by insects or other pests; and b) i) when shipped in non-flowering state, the specimens must be traded in shipments consisting of individual containers (such as cartons, boxes, crates or individual shelves of CC-containers) each containing 20 or more plants of the same hybrid; the plants within each container must exhibit a high degree of uniformity and healthiness; and the shipment must be accompanied by documentation, such as an invoice, which clearly states the number of plants of each hybrid; or ii) when shipped in flowering state, with at least one fully open flower per specimen, no minimum number of specimens per shipment is required but specimens must be professionally processed for commercial retail sale, e.g. labelled with printed labels or packaged with printed packages indicating the name of the hybrid and the country of final processing. This should be clearly visible and allow easy verification. Plants not clearly qualifying for the exemption must be accompanied by appropriate CITES documents.
***Cyclamen persicum*:** Artificially propagated specimens of cultivars of *Cyclamen persicum* are not subject to the provisions of the Convention. However, the exemption does not apply to such specimens traded as dormant tubers.
Taxus cuspidaae: Artificially propagated hybrids and cultivars of *Taxus cuspidata*, live, in pots or other small containers, each consignment being accompanied by a label or document stating the name of the taxon or taxa and the text 'artificially propagated', are not subject to the provisions of the Convention.

Degree and completeness of reporting of trade by CITES Parties

The degree and completeness of reporting of trade in artificially propagated plants listed in Appendix II is variable between Parties because:

1. Parties may not provide data in an electronic format;
2. Parties may authorize trade using certificates rather than permits and vary in their reporting practices for these different types of documentation;
3. Parties vary in their reporting practices;
4. Parties report at different taxonomic levels.

The extent to which these factors affect reporting are examined below. Questionnaire responses are referred to in order to explain some of these differences in reporting. Twenty-three Parties and one dependent territory of the United Kingdom provided a response to a questionnaire on reporting practices for artificially propagated Appendix II plants circulated with Notification to the Parties No. 2012/032[3] of 28 March 2012. Responses received until 4th May 2012 were included in the analysis. One response received on 28 May 2012 was not considered because it arrived too late to be included in the analysis. A summary of the responses is provided in this section.

1. Format for providing reports

Virtually all Parties now submit their annual reports electronically. The data on artificially propagated specimens of species listed in Appendix II are therefore included in the CITES Trade Database. In the period 2006-2010, only three Parties submitted reports that were not in electronic format. Two of these Parties did not authorize trade in artificially propagated plants listed in Appendix II, and permit data were added to the Trade Database for the remaining Party. Prior to 2006, it is not clear what proportion of this trade was not recorded within the database as a result of reports being submitted in hard copy rather than electronically, as the trade may have been captured in the reports of the other trading partner, if this Party submitted their reports electronically.

2. Issuance and reporting of certificates instead of permits

Parties may authorize trade using phytosanitary certificates as certificates of artificial propagation for specimens of artificially propagated Appendix II plants, according to CITES provisions. Ten Parties and territories have notified the Secretariat that they issue phytosanitary certificates to authorise the export of artificially propagated Appendix II plants species in accordance with Resolution Conf. 12.3 (Rev. CoP15) (Permits and certificates) (Belgium, Canada, Denmark, Germany, Hong Kong Special Administrative Region of China, Italy, Netherlands, Republic of Korea, Singapore, and Sweden)[4]. The CITES Trade Database indicates that all of these Parties report on artificially propagated plant trade. However,

[3] Argentina, Australia, Austria, Belgium, Brazil, China, Czech Republic, Denmark, Egypt, El Salvador, France, Germany, Greece, Isle of Man, Japan, Kuwait, Mexico, Norway, United Kingdom, United States of America, Switzerland, Thailand, Bolivarian Republic of Venezuela, Viet Nam.
[4] http://www.cites.org/eng/resources/reference.php#phyto

responses to the questionnaire illustrate that some Parties that issue phytosanitary certificates as certificates of artificial propagation for live plants, do not report on this trade, although the reasons for this lack of reporting are unclear, as CITES provisions require that such trade is reported.

Q1. Do annual reports of your country include data on trade in artificially propagated plants of species in Appendix II?

Of the 24 questionnaire respondents, one Party reported that they did not include trade data for artificially propagated plants of species in Appendix II within their annual reports and another two Parties indicated that they did not include data in their annual report where a phytosanitary certificate was used as a certificate of artificial propagation, but did include data where CITES permits were used. The remaining 21 Parties do report on such trade within their annual reports. With the exception of the one Party that reportedly did not include trade data for artificially propagated plants of species in Appendix II within its annual reports, all of the remaining respondents had reported on such trade in the years 2006-2010 according to the CITES Trade Database.

3. Reporting practice (permits)

Parties were asked to indicate the completeness of reporting on trade in artificially propagated Appendix II plants. Data from the CITES Trade Database were also analysed to obtain a further indication of the completeness of reporting.

Q2. If you answered "YES" to question one, please select how the trade is reported within annual reports?

a) Each individual permit is recorded
b) The report contains a summary of permits issued
c) Trade is reported in another way

In response to question 2, 83% of responding Parties indicated that their current reporting practice is to include details of each individual permit within annual reports. Of these 20 Parties, all indicated that their reports include details of the CITES Appendix, species, purpose of the transaction, quantity, and country of import and export/re-export for individual transactions. Nineteen Parties indicated that they include permit numbers in their annual reports and eighteen parties that they include a source code.

Sixteen of the 20 Parties indicated that the type of specimen is included for artificially propagated plants listed in Appendix II. However, the Bolivarian Republic of Venezuela reported that the term code (e.g. LIV for live) is not used; rather a full description is provided (e.g. "live plants"). Such descriptions are converted to term codes when incorporated into the CITES Trade Database.

Three Parties reported that trade in Appendix II artificially propagated plants is summarised within their annual reports. One Party noted that total exports are summed and the number of permits is not provided, although, for re-exports (of which few are recorded), full permit details are provided. Another Party indicated that although a summary was provided, information on scientific names, type of specimen, quantity, source, and the countries of origin, export and import are included in the report.

The United States provided details of its reporting practice, which has been in place since 1994, to reduce the total number of plant data records that are entered annually. Records are included within annual reports for cleared shipments of artificially propagated Appendix II plants at the same taxonomic level that the taxa are listed in the CITES Appendices. For example, 15 artificially propagated *Dendrobium macrophyllum* orchid specimens and 10 artificially propagated *Laelia purpurata* orchid specimens are recorded by the United States as 25 Orchidaceae specimens, since these species are included in Appendix II at the family level (Orchidaceae).

However, the United States still reports on a shipment-by-shipment basis, with the details submitted for each record including: the date of transaction; CITES Appendix; codes for countries of origin, export, and import; quantity (quantity actually traded, not quantity permitted); unit of measure code; type of specimen (term) code; purpose of transaction code source code; permit number; and status (cleared or seized).

Permits endorsed by United States inspecting officials for the import into, and export or re-export from the United States, of CITES plant specimens during the five most recent years are retained on file at the offices of the United States CITES Management Authority and can be referred to if there are requests for species-specific information on cleared shipments of artificially propagated Appendix II plants.

According to the CITES Trade Database, in the period 2001-2010, the United States was the second largest importer of artificially propagated plants listed in Appendix II (accounting for 26% of all imports according to importer-reported data). The disparity between the taxonomic level of reporting by the United States and that of its trading partners is illustrated in Figure 4. It is possible that other countries of import may report at higher taxonomic levels on the same basis.

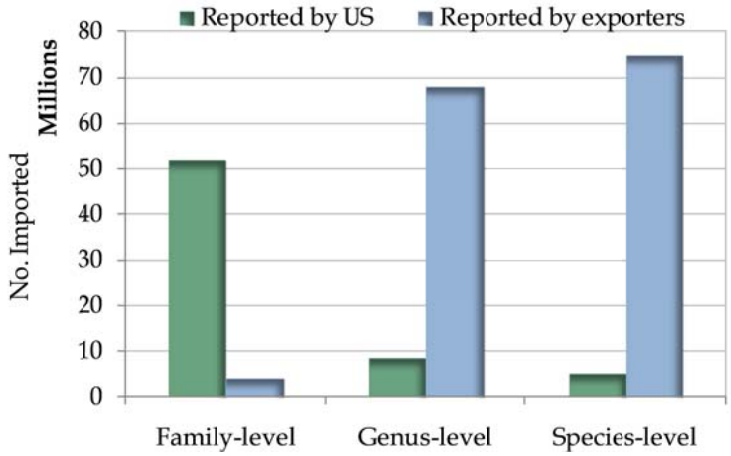

Figure 4. Taxonomic level of reporting imports of live, Appendix II-listed artificially propagated plants (excluding hybrids) by the United States and its trading partners, 2001-2010, by shipment.

Data within the CITES Trade Database

The completeness of annual reporting was determined by referring to the data within the CITES Trade Database. However, the proportion of artificially propagated specimens might be underestimated because the source is not always indicated. By definition, all trade reported as artificially propagated within the database has an allocated source code ("A".)

For the period 2006-2010, a small proportion of trade in artificially propagated plants listed in Appendix II was reported without a purpose code: 3% of shipments reported by countries of export, and 2% of shipments reported by importers. This trade reported without a purpose

code predominantly involved live plants (35,684,826 and 3,292,734 kg) and leaves (23,771,160) as well as plant derivatives including powder (53,345 kg), stems (8640 kg) and dried plants (7913 kg) as reported by countries of export. The main Parties that appeared not to report consistently on purpose codes for trade in artificially propagated Appendix II plants 2006-2010 were Costa Rica, Honduras and Thailand

In some cases, the country of destination of exports was not reported. In 0.6% of shipments reported by countries of export the importing country was not specified. Seventeen countries of export reported shipments missing this information; 42% of these were reported by Ecuador, 37% by Canada and 12% by China. In all the 2,497 shipments reported without the importing country, the type of specimen was provided; in 4% of the shipments, no purpose code was provided.

4. Taxonomic level of reporting

Differences in the taxonomic level of reporting appear to represent the major difference in how Parties report on trade in artificially propagated plants listed in Appendix II. Differences in the taxonomic level of reporting are, in part, due to the reporting guidelines for plants as defined in the *Guidelines for the preparation and submission of CITES annual reports*, which specify that trade should be reported at the species level but that, where this is not possible, trade can be reported at the generic level for taxa included in the CITES Appendices by family, or where the specimens are artificially propagated Appendix II orchid hybrids.

Individual Parties frequently reported at both the species and genus level during the five years 2006-2010. The majority of shipments were reported at the species level (88%, as reported by countries of export) (Figure 4a). Trade was also reported at the family level both by countries of export and countries of import (approximately 22,409 and 72,702 shipments, respectively, 2006-2010), although the guidelines do not indicate that reporting at the family level is acceptable.

The level of taxonomic reporting differs between countries of export and countries of import with the latter tending to report trade at a higher taxonomic level than countries of export for corresponding trade (Figure 4b). Countries of import reported almost a fifth of all trade at the family level.

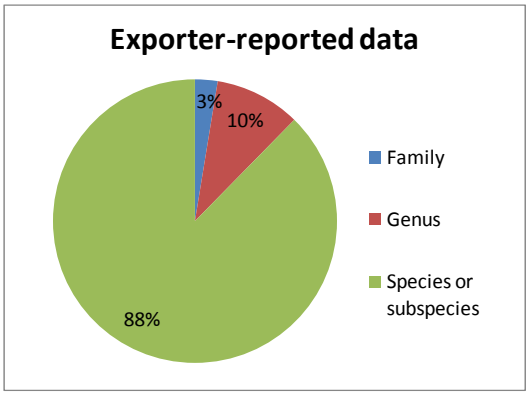

Figure 4a. The proportion of shipments of non hybrid taxa that were reported at each taxonomic level by countries of export, 2006-2010.

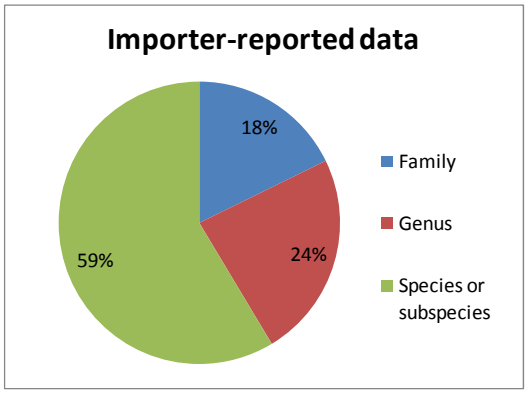

Figure 4b. The proportion of shipments of non-hybrid taxa that were reported at each taxonomic level by countries of import, 2006-2010.

Plant taxa included in the Appendices at the family level (Cactaceae, Cycadaceae, Didiereaceae, Orchidaceae, Stangeriaceae and Zamiaceae) may be reported at the genus level, according to the guidelines, as may orchid hybrids. Of the trade in Appendix II artificially propagated plants recorded at the genus level (2006-2010), the majority (72% of shipments according to data reported by countries of import) was in taxa listed at the family level, with a further 10% represented by orchid hybrids (Figure 5). The remaining 18% of shipments reported at the genus level, were neither taxa listed at the family level nor orchid hybrids. Further information on the practice of Parties with regard to the taxonomic level of reporting is available from question 3 of the questionnaire.

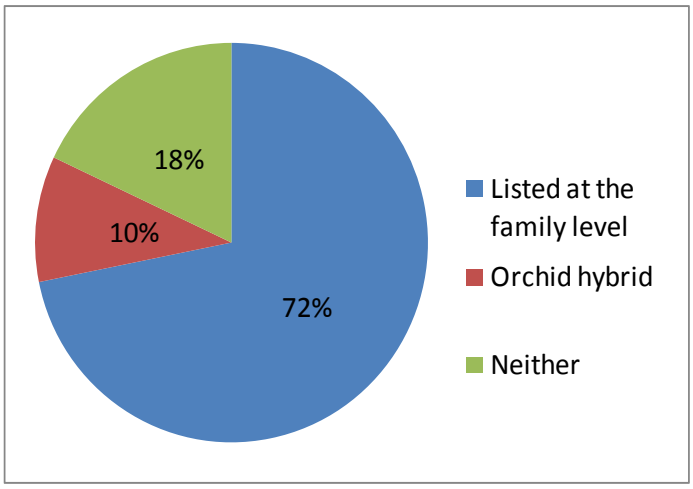

Figure 5. Characteristics of trade in Appendix II-listed artificially propagated plants recorded at the genus level 2006-2010, as reported by countries of import, by number of shipments.

Q3. Please select one of the options below, to indicate at which taxonomic level you report the trade (Species level; Genus level; Family level; It varies). If it varies, on what basis do you determine the appropriate level?

Three quarters of respondents indicated that they report on trade in artificially propagated Appendix II plants at the species level, which broadly corresponds to the results obtained from the CITES Trade Database (Figures 5a and 5b). However, even where Parties did generally report at the species level, there may be exceptions. For example, Belgium reports at the species level for all imports except orchids, and at the genus level for exports (specifically noting the genera *Tillandsia*, *Pachypodium*, *Aloe*, *Nepenthes*, and *Cyclamen*, as well as cacti and orchids more generally). Kuwait and Switzerland report at the species and genus levels; Switzerland noted that reporting at higher taxonomic levels is rare.

Six Parties indicated that the taxonomic level of reporting varies, such as the United States approach outlined above. Greece reports on taxa according to the taxonomic listings within the legislation implementing CITES within the European Union[5]. France sometimes reports at the family level for orchids and, more rarely, for cacti. China noted that reporting is generally

[5] Council Regulation (EC) No. 338/97 and Commission Regulation (EC) No. 865/2006 as amended by EC Commission Regulation (EC) No. 100/2008 and Annexes contained within Commission Regulation (EC) No. 100/2008.

at the species level, although genus level may be used where identification of specimens is not possible.

Australia indicated that, whilst trade is reported at the species level on single use permits for the import or export of artificially propagated plants (other than hybrids), multiple use permits are issued using the lowest taxonomic level possible. However, exporters with a multiple use export permit must use a Specimen Export Record for exports, and report to the species level.

According to the CITES Trade Database, a high proportion (23%) of the trade in specimens of live artificially propagated Appendix II plants was from hybrids, as reported by exporters 2006-2010. Parties were asked to provide details of their reporting practice for hybrid taxa in question 4 of the questionnaire.

Q4. Concerning trade in hybrids, please select one or more of the options below to indicate how the trade is reported:
-The parent species of hybrids are specified
-Reporting is at the higher taxon level and "hybrid" is specified for Orchids only
-Reporting is at the higher taxon level and "hybrid" is specified for all taxonomic groups
-Other (please specify)

According to the 24 respondents, Parties differed in their reporting practice concerning trade in hybrids, although individual Parties may not follow a consistent approach. Three Parties indicated that, in some cases, trade is reported at the higher taxon level and "hybrid" is specified (e.g. Encyclia spp.) but, in other cases, reporting may include both parent species (e.g. *Encyclia alata* x *Encyclia tampensis*). Three Parties noted that they reported trade in hybrids at higher taxon levels for all taxonomic groups (rather than only orchids). One Party noted that it reported import trade in orchid hybrids according to the taxonomic level on the export permit, and this usually refers to the genus.

Use of a single consistent approach was reported by 18 Parties and details are summarised in Figure 6.

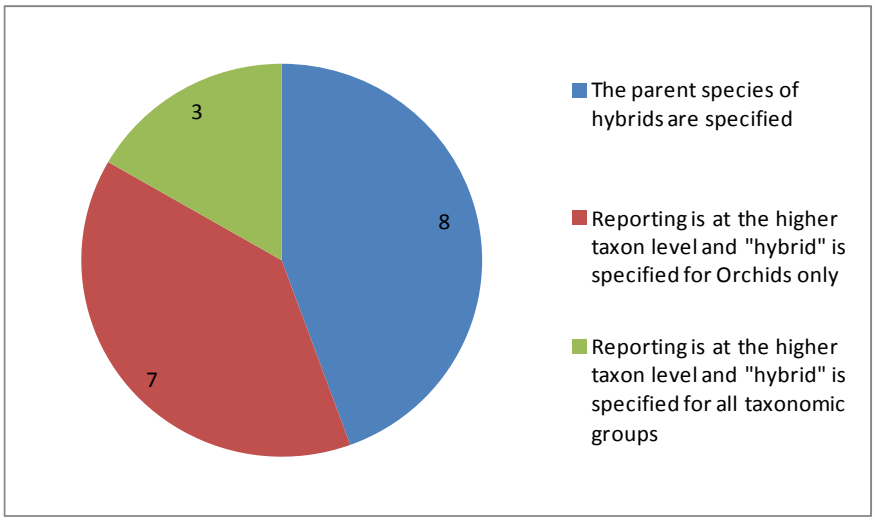

Figure 6. Parties' reporting practice for hybrid plant specimens.

The United States reports hybrids of artificially propagated Appendix II species at the level of genus or family, dependent on the listing in the Appendices. Whilst, two Parties in their response to question 3 noted that all hybrids were reported at the genus level.

According to data provided in annual reports, Parties report either the parent species of the hybrid (e.g. *Encyclia alata* x *Encyclia tampensis*), or the parent genus/genera (e.g. *Brassavola* x *Cattleya* hybrid) or the family (e.g. Orchidaceae hybrid). Alternatively, Parties sometimes report on a 'scientific' name of an intergeneric hybrid (e.g. Brassocattleya refers to a hybrid between the genera *Brassavola* and *Cattleya*), or the trading name (e.g. *Cattleya* 'Christmas Rose').

Regardless of how they are reported, all electronic records of trade in hybrids are entered into the CITES Trade Database at the taxonomic level common to the parent taxa specified in the report (either the genus level for an intra-generic hybrid, or the family level for an inter-generic hybrid), e.g. '*Cattleya* hybrid' or 'Orchidaceae hybrid'.

Summary of current reporting practices

Parties' current reporting practices for trade in artificially propagated plants listed in Appendix II are summarized in Table 4. It is clear that Parties have not consistently followed the recommendations of the Conference of the Parties.

As recognised in Resolution Conf. 11.17 (Rev. CoP14), annual and biennial reports are the only available means of monitoring the implementation of the Convention and the level of international trade in specimens of CITES species. Whilst Parties may issue phytosanitary certificates as export permits in accordance with Resolution Conf. 12.3 (Rev. CoP15), not all provide details of such exports in their annual reports in accordance with the requirements of the Convention (Article VIII).

Table 4. Summary of Parties' current reporting practices for trade in artificially propagated plants listed in Appendix II.

	Reporting in accordance with reporting guidelines	**Reporting not in accordance with reporting guidelines**
Formats	Electronic format annual reports are now (2006-2010) submitted by the majority of Parties reporting on trade in artificially propagated specimens of Appendix II taxa, so this data will be included in the CITES Trade database.	Hard copy format annual reports were submitted by only a few Parties that reported on trade in artifically propagated specimens of Appendix II taxa in the period 2006-2010.
Issuance of documents	Ten Parties and Territories have notified the Secretariat that they use phytosanitary certificates as certificates of artificial propagation for taxa included in Appendix II and include the trade data in their annual reports.	Two Parties reported in their questionnaire responses that they issue phytosanitary certificates as certificates of artificial propagation for taxa included in Appendix II but do not include the trade data in their annual reports (8% of respondents).
Taxonomic level	Fifty four percent of questionnaire respondents indicated that they only report trade in artificially propagated specimens of taxa included in Appendix II at the species level.	Thirty six percent of questionnaire responses indicate that questionnaire respondents vary the taxonomic level of reporting depending on factors such as: whether the taxa in question is listed at the Family level and CITES guidance indicates that genus level reporting is acceptable; or taxa listed at the Family level may also be reported at Family level.
Hybrids	Forty six percent of questionnaire respondents indicate that they report by specifying parent species; 33% report at genus level for orchid hybrids)	Twenty-five per cent of questionnaire respondents report at genus level for all hybrids of artificially propagated specimens of taxa included in Appendix II (NB some Parties reported multiple reporting practices).

Details of exports that have been authorised by issuance of a phytosanitary certificate rather than an export permit can be added to the CITES Trade Database if provided electronically in the usual way.

The questionnaire provided Parties with an opportunity to provide feedback on the current reporting requirements, which are summarised below.

Please provide any other relevant comments on reporting of artificially propagated plants of species in CITES Appendix II.

A number of Parties made observations on the reporting of Appendix II artificially propagated plants. Switzerland noted that 20% of all its reporting concerns imports and exports of artificially propagated plants, and that the reporting of this trade occupies a significant resource of the Management Authority.

The United States supported the need for continued work within Decisions 14.39 (Rev. CoP15)-14.41 (Rev. CoP15) to identify a way to reduce the reporting burden on Parties that is consistent with Parties' reporting obligations under the Convention. The United States suggested that the approach they use to streamline reporting of artificially propagated Appendix II plant specimens be adopted more widely. They noted that they "have found through experience that this streamlined reporting method has not hindered our ability to use our annual report data to detect illegal trade or to perform other analyses related to the conservation of wild CITES-listed plants".

China felt that there was merit in further discussion of the appropriate taxonomic level for reporting of artificially propagated Appendix II plants, in particular when the entire genus is listed in Appendix II, whether it is necessary to report at the species level.

Germany commented that the reporting of scientific names on export permits, especially for orchids, often did not correspond to CITES accepted nomenclature, and where the Conference of the Parties has not adopted a standard for some taxonomic groups this creates additional work for CITES Authorities. Whilst this problem may not be restricted to artificially propagated plants, it is clear that the standard nomenclatures adopted by the Convention are not always followed (e.g. in relation to hybrids as described above).

Of the correspondence received by UNEP-WCMC from Parties concerning annual reports submitted for the year 2010, only the United States provided any additional information on reporting practices referring specifically to artificially propagated plants listed in Appendix II as described above.

Conclusions on the degree and completeness of reporting of trade in Appendix II artificially propagated plants

- Much of the difference between trade volumes reported by countries of import and those reported by countries of export is explained by the non-reporting of exports from Taiwan province of China. observed in the trade volumes reported by the importing and exporting countries is explained by a lack of reporting, In addition, the practice, reported by a few countries, of not reporting on imports accompanied by phytosanitary certificates as certificates of artificial propagation also leads to differences in volumes reported by countries of export and import.
- Whilst many Parties follow the recommendations in the *Guidelines for the preparation and submission of annual reports*, some Parties have adopted their own reporting practices to lessen reporting burdens. Discrepancies in the taxonomic level of reporting were observed, with countries of import tending to report at a higher taxonomic level than countries of export for corresponding trade.
- Otherwise, reporting of trade in Appendix II artificially propagated plants appears to be broadly consistent with Resolution Conf. 12.3 (Rev. CoP15).
- One Party noted that the current level of detailed reporting for artificially propagated plants of taxa included in Appendix II occupies a lot of the resources of the Management Authority and one Party noted that it had adopted a streamlined reporting procedure.

Illegal trade detection through the compilation of trade data – analysis of seizures recorded in national reports

The practice of Parties in reporting confiscation or seizure data within their national reports was examined through their questionnaire responses. The questionnaire also provided Parties with an opportunity to submit details of illegal trade that was known to have occurred in their country but that was not recorded in national reports.

Responses to question 5 are summarised below.

Q5. Are confiscations and seizures of Appendix II artificially propagated plants reported in your:
-CITES annual reports or
-CITES biennial reports?

Approximately one-third of respondents reported that confiscations/seizures of artificially propagated plants of taxa included in Appendix II are reported exclusively within biennial reports, with 20% indicating that the data were included in their annual reports (Figure 7). Whilst five Parties used both types of reports (and therefore appear to report on seizures/confiscations twice), two Parties did not report on seizures/confiscations at all.

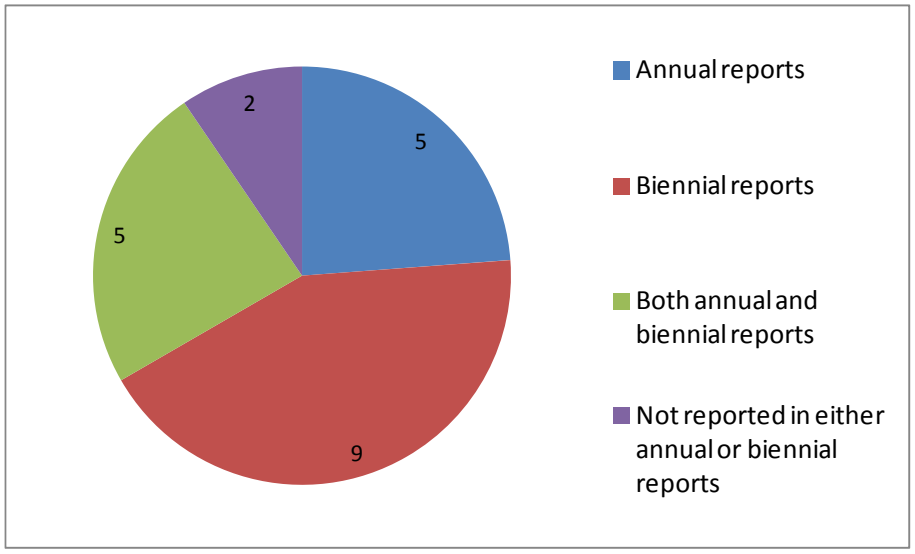

Figure 7. Parties reporting practice for seizures/confiscations of Appendix II artificially propagated plants.

Mexico indicated that details of confiscations/seizures are included within both annual and biennial reports, provided that they could be made public in accordance with national legislation. Greece indicated that all confiscations/seizures would normally be included within biennial reports; however, as no seizures/ confiscations (presumably of artificially propagated Appendix II plants) had yet been made, none had been reported on.

Responses to question 6 are summarised below.

Q6. Can you provide any additional details of known illegal trade in artificially propagated plants that has not already been reported through annual or biennial reports?

Six respondents provided additional details on illegal trade in artificially propagated plants. The United Kingdom raised concerns that plants within international trade have been described as artificially propagated where they are in fact wild-collected (i.e. misdeclared). It was noted this was particularly true for certain plant groups where new species are entering into trade such as orchids and *Nepenthes* spp. (tropical pitcher plants).

Australia noted that parts and derivatives of plant species used in many complementary and traditional medicines are assumed to be artificially propagated. Two main enforcement problems were identified by Australia. Firstly, plant derivatives such as powders may not be labelled on packaging (either intentionally or inadvertently) and therefore may not trigger seizures at the border. Secondly, seizure data may not accurately reflect the species contained within tablets/pills as these may be derived from multiple CITES species.

One Management Authority suspected that there was a small scale illegal trade in artificially propagated plants by retailers through the internet and postal trade (mainly within the European Union) and was working to tackle this through education. Mexico noted that there had been no known cases of illegal trade in artificially propagated Appendix II plants over the period 2005 to 2012.

The United States noted that, for seized shipments of artificially propagated Appendix II plants, they report seizures at the most specific taxonomic level available; usually the species or subspecies or parental cross level for hybrids.

Analysis of national reports

An analysis of data within CITES annual and biennial reports was undertaken to determine whether any illegal trade characteristics could be identified such as trends within taxonomic groups or high risk geographic areas.

Within annual reports, data on confiscations/seizures tend to be quantitative, with Parties providing details of the species identified to the lowest taxonomic level possible, country of origin, quantity and purpose where known. Parties report on seizures in their annual reports using source code "I". However, it must be noted that this source code is inconsistently used. Some Parties use source code "I" to record attempted imports of specimens that have been seized at the national borders. Other Parties appear to use source code "I" only for specimens that have been confiscated or seized and are being legally re-exported back to the country of export or origin.

Biennial reports include information on "*significant seizures, confiscations and forfeitures of CITES specimens*" and the data provided tend to be qualitative. As there is no current definition on what a "significant" seizure may be, information provided is unlikely to be comprehensive, and may therefore under-represent the scale of seizures by Parties. Where quantitative data were provided, this was analysed to determine which taxa were more

prevalent in illegal trade. However, some data had to be converted to higher taxonomic levels as Parties had provided one quantity to cover a number of different genera.

Annual reports

According to the data submitted by Parties within their annual reports for the period 2006-2010, seizures of Appendix II plants (reported as source code "I") comprised mainly live plants. Additional seized items included dried plants, seeds, leaves, roots and stems, as well as medicines, extract, powder, oil and derivatives. Whilst derivatives from trees grown in monospecific plantations may be considered as artificially propagated in accordance with the definition in Res. Conf. 11.11 (Rev. CoP15), such plant material is less likely to have been derived from artificially propagated production methods and no further consideration is given to timber-related parts/derivatives (carvings, chips, timber, plywood, sawn wood and veneer) in this section.

Live plants

Countries of import reported 94,468 live plants as well as 0.46 kg of live plants confiscated/seized, representing 491 taxa over the five year period 2006-2010. There were very low levels of seizures for the vast majority of these taxa, with specimens of 442 taxa seized in quantities of less than 100 specimens over the five years. Data on the 10 taxa reported as confiscated or seized during 2006-2010 by countries of import in the greatest numbers are presented in Table 5. All other taxa were reported as confiscated/seized in quantities below 1,000 live plants. The proportion of artificially propagated and wild plants in legal trade for these taxa is provided.

A large number of live plants seizures could not be identified to species level and were reported either at the genus or family level. Live Appendix II plants of the family Orchidaceae were seized in highest quantities (79%), followed by Cactaceae (6%), Droseraceae (5%) and Euphorbiaceae (3%). Reflecting the most highly traded genus in trade 2006-2010, 42% of all seizures of live Appendix II plants were reported as *Phalaenopsis* spp. or *Phalaenopsis* hybrid. Seizures/confiscations reported at the family level (Orchidaceae spp. and Cactaceae spp.) accounted for a higher proportion of illegal trade compared to legal trade (Table 3). The seizure of live plant specimens reported in kilograms represented a single species, *Panax quinquefolius*.

Live Appendix II plants were seized from 54 countries of export, with the highest number of seizures reported exported from Parties or territories within Asia: Taiwan, Province of China (25,726), Thailand (23,339) and Indonesia (18,590). According to countries of import, over 70% of all live Appendix II plant seizures originated from these three countries or territories. However, 99.9% of live Appendix II plants legally exported from both Thailand and Indonesia were artificially propagated as opposed to wild-sourced (as reported by countries of export, 2006-2010). The countries of origin of seizures broadly correspond to the main exporting Parties for live plants.

Only 13 countries of import reported seizures of live Appendix II plants, with ten of these being located within the European Union. The United States reported the vast majority of seizures of live plants, as reported by importers (92%).

Imports of live Appendix II plants that were reported seized were predominately for commercial purposes (90%); no purpose code was recorded for the specimens reported seized in kilograms.

Table 5. The ten Appendix II plant taxa reported confiscated/seized as live plants in the greatest numbers, 2006-2010 (reported by importers).

Taxon	Quantity seized	Proportion of total confiscated /seized	Quantity in legal trade	Proportion of total in legal trade	Proportion of wild-sourced and artificially propagated live plants in legal trade	
					Artificially propagated	Wild
Phalaenopsis spp. (Orchid)	38454	40.7%	19,991,090	17.8%	99.7% (63 species plus *Phalaenopsis* spp.)	0.3%
Dendrobium hybrid (Orchid)	19740	20.9%	3,715,127	3.3%	100% 5 specific hybrids plus *Dendrobium* spp.	0%
Dionaea muscipula (Venus flytrap)	4990	5.3%	4,053,509	3.6%	100%	0%
Cattleya hybrid (Orchid)	3014	3.2%	176,816	0.2%	100%	0%
Euphorbia spp.	2857	3.0%	3,212,845	2.9%	99.7% (275 species or subspecies)	0.3%
Cactaceae spp. (Cacti)	2528	2.7%	17,122,608	15.3%	Virtually 100%	<0.01 %
Orchidaceae spp. (Orchid)	2252	2.4%	41,822,233	37.3%	Virtually 100%	<0.01 %
Phalaenopsis hybrid (Orchid)	1450	1.5%	20,876,991	18.6%	100% (5 specific hybrids plus *Phalaenopsis* hybrid)	0%
Pleione spp. (Orchid)	1312	1.4%	3,892	<0.01%	100% (13 species plus *Pleione* spp.)	0%
Oncidium spp. (Orchid)	1233	1.3%	1,076,723	1.0%	Virtually 100% (196 species plus *Pleione* spp.)	<0.01 %

Countries of export reported 281 live plants under source code "I"; the majority (261) were exported by Ecuador for the purpose of law enforcement/judicial/forensic.

Other derivatives

In terms of plant stems, orchids were again the main taxonomic group seized, with 137 kg of *Dendrobium* spp. and 53 kg of Orchidaceae spp. reported seized 2006-2010 by countries of import. The majority of seizures of orchid stems originated from China (119 kg *Dendrobium* spp. and 21 kg Orchidaceae spp.). *Aloe ferox* stems were seized in lower numbers (1911 stems), all originating in South Africa. In contrast to orchids, international trade in *A. ferox* stems is predominantly in specimens that were wild-sourced rather than produced through artificial propagation. All of the plant stem seizures were reported by New Zealand, the United States and Germany.

A total of 171.5 kilograms of dried plants as well as 474 individual dried plants were reported seized/confiscated by seven countries of import during 2006-2010. Of those, the highest

quantities of seizures (74 kg) were reported for orchids identified to the family level, Orchidaceae, as well as *Panax quinquefolius* (American ginseng) (26.5 kg), *Aloe* spp. (24 kg) and *Cibotium barometz* (18.5 kg). Individual dried plants seized comprised *Hoodia* spp. (180), Cactaceae spp. (46), Orchidaceae spp. (46) and *Panax quinquefolius* (40), as well as very low numbers of 57 other taxa. Legal trade reported in 2006-2010 for *Panax quinquefolius* was in both wild specimens (with origins in the United States, Canada or unknown), and specimens produced by artificial propagation.

According to countries of import, China, including its Special Administrative Region of Hong Kong was the main country of export for seized dried plants with 83 kg from China and 27 kg from Hong Kong S.A.R. A further 24kg was seized from unknown countries.

Three quarters of all seized plant roots reported in kilograms comprised the species *Panax quinquefolius* (2888 kg seized), with possibly only two other significant taxa; *Cibotium barometz* (570 kg) and species of the genus *Gastrodia* (155 kg). Reported seizures of seeds comprised mainly the species *Beccariophoenix madagascariensis* (4 kg), as well as *Cypripedium calceolus* (0.5 kg and 1000 seeds), and smaller numbers of additional species including *Piperia unalascensis* and Zamiaceae spp.

Trade data for seizures of other derivatives (powder, extract, medicine and oil), which are usually reported in weight (kg), were combined to allow for a more meaningful analysis. The ten taxa reported as seized/confiscated in the greatest weight for these trade terms is provided in Table 6.

Table 6. The ten Appendix II plant taxa reported confiscated/seized as derivatives in the greatest weight, 2006-2010 (reported by countries of import, in kg).

Taxon	**Quantity reported seized/confiscated (kg)**	**Main trade term**
Aloe ferox	20267	Extract
Gastrodia elata	16780	Derivatives
Hoodia spp.	10946	Powder
Aquilaria filaria	9000	Powder
Pterocarpus santalinus	5000	Powder
Aquilaria malaccensis	3708	Powder
Aloe arborescens	2380	Extract
Bletilla spp.	2184	Powder
Cistanche deserticola	1886	Derivatives
Flickingeria macraei	1881	Derivatives

The United Kingdom seized virtually all of the *Aloe ferox* specimens; these originated from South Africa, a range State for the species. The legal trade in *A. ferox* comprises specimens sourced from both the wild and artificial propagation. *Gastrodia elata* was seized predominantly by the United States from The Republic of Korea, all legal trade reported in the CITES Trade Database for this species 2006-2010 was in artificially propagated specimens.
The majority of specimens of *Hoodia* spp. (10800 kg) was seized by the United States and (re-)exported from the United Kingdom. Saudi Arabia reported the seizure of 9000 kg of *Aquilaria filaria* (all powder) and 5000 kg of *Pterocarpus santalinus* from Indonesia and India, respectively, both of which are range States for these respective species.

Biennial reports

Of the 67 biennial reports received for the reporting period 2007-2008, 13 Parties or territories[6] reported on confiscations/seizures of plant taxa. Many Parties indicated that significant seizures had been made, but did not provide full details, or the details referred to in the report (e.g. as an attachment) could not be located. Seizure data within biennial reports frequently did not indicate the country of export, although this could in some cases be unknown.

Live plants were the main specimens reported on as "significant seizures", with 17,666 live plants seizures during 2007-2008. In contrast to data held within annual reports, the seizure data reported in biennial reports suggest that specimens in illegal trade 2007-2008 were principally of the family Cactaceae (Figure 8). Three quarters of these seizures (76%) were reported at the family level. The main taxa reportedly seized as live plants and reported at the genus/species level in 2007-2008 biennial reports were *Cycas revoluta* (3080), *Frailea* spp. (610), and *Ariocarpus* spp. (115); all of which are within the family Cactaceae.

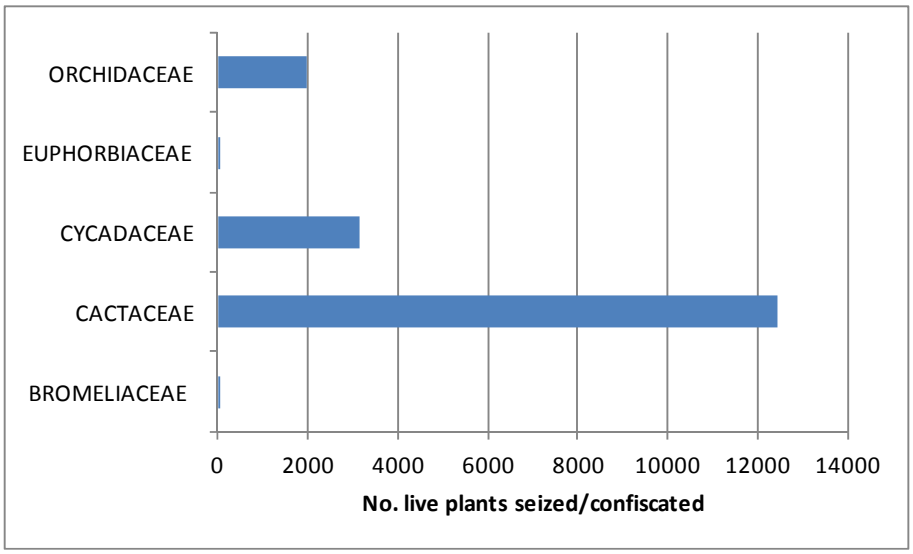

Figure 8. Number of live plants seized/confiscated, by family, as reported in CITES biennial reports 2007-2008.

Other reported seizures in biennial reports included 14370 medicines, all of which comprised *Hoodia* spp. and *Saussurea costus*, 19467 pills, 92% of which were *Hoodia* spp., and 5605 derivatives, mainly comprising *Prunus africana*. More than 6000 "pieces" of *Hoodia spp.* were also reported on.

Review of existence/extent of illegal trade in artificially propagated plants

Literature pertaining to the existence and extent of illegal trade in artificially propagated plants was found to be generally scarce. There is an obvious risk that wild-collected and

[6] Argentina, Austria, Germany, Ireland, Kuwait, Latvia, Macao, Netherlands, Peru, Portugal, Slovenia, Spain and Sweden.

artificially propagated specimens could be combined in the same shipment in order to smuggle wild specimens. Several reports of illegal trade referred to wild-collected specimens being falsely reported as artificially propagated (Jenkins & Oldfield 1992, Hemley 1994, Oldfield 1997, Holden 1998, CITES 2002, TRAFFIC 2008a, TRAFFIC 2009).

Oldfield (1997) reported that a shipment of 1491 Cactaceae spp. exported from Peru were claimed to be artificially propagated, however, further investigation revealed more than 90% of the specimens were found to be wild-collected. Similar cases involved large quantities of specimens of *Pachypodium brevicaule* originating in Madagascar and imported to Germany in 1985 and 1986 (Jenkins & Oldfield 1992), and shipments of orchids imported by Germany from Taiwan (Province of China) in 2001. In the latter case, the shipment reported to be artificially propagated was found to contain 141 specimens of a rare species of the genus *Dendrobium* and 57 specimens of *Paphiopedilum* spp. all of which were wild-sourced (CITES 2002).

Literature consulted provided a number of other examples of illegal trade, which appeared to be most prevalent in two families: Orchidaceae spp. and Cactaceae spp. (see Table 7).

Table 7. Reports of illegal trade from literature searches.

Taxon	**Report of illegal trade**	**Reference**
Orchidaceae spp.	78 wild taken Appendix I specimens, 26 Appendix II specimens smuggled in luggage from Viet Nam to Germany. October 2001.	CITES (2002)
Cactaceae spp. including *Ariocarpus, Astrophytum, Aztekium, Echinocereus, Obregonia, Pelecyphora, Strombocactus* and *Turbinicarpus*	927 wild-collected live specimens of 18 Cactaceae species endemic to Mexico seized at Schiphol Airport, Amsterdam, Netherlands in March 2000	CITES (2002)
Orchidaceae spp. including *Dichaea*, *Epidendrum*, *Leptotes*, *Lycaste*, *Masdevallia*, *Maxillaria*, *Oncidium*, *Pleurothallis*, *Psygmorchis*, *Stelis* and *Telipogon*	310 Appendix II wild-collected specimens of Orchidaceae spp. were seized at Zaventum Airport, Belgium in a shipment from Costa Rica in 2001.	TRAFFIC (2001)
Orchidaceae spp. majority of specimens *Cymbidium* and *Phalaenopsis*	25 seizures of Orchidaceae spp. were carried out at Customs checkpoints in Hong Kong, SAR (China) in 2003. 18 seizures occurred on the border with mainland China, 7 took place at the Hong Kong-Macau and Hong Kong-China ferry terminals.	TRAFFIC (2003)

Large inconsistencies between the number of permits issued and the number of specimens of the family Cactaceae exported from Mexico have been noted; more than 500,000 Saguaro cactus ribs (*Carnegiea gigantea*) were exported from Mexico without a permit (Búrquez 2008). It has also been suggested that the illegal trade in extract from *Aloe ferox* from South Africa could also be substantial (Knapp 2006). Newton and Vaughan (1996) reported an undocumented trade of 300 tonnes per annum in this species.

Illegal collection threatens a number of internationally traded orchid genera; *Aerides* spp., *Calanthe* spp., *Cymbidium* spp., *Phalaenopsis* spp., *Vanda* spp. and *Dendrobium* spp. in Viet

Nam (CITES 2004), *Dendrobium scabrilingue* in Thailand (Sarathum *et al*. 2010), and *Phalaenopsis* spp., *Bulbophyllum reticulatum* and *Dossinia marmorata* in Malaysia (Rusea *et al*. 2009).

Schuiteman *et al*. (2008) highlighted the problem of the illegal trade in orchids from Lao People's Democratic Republic (Lao PDR) to collectors in Thailand; two species endemic to Lao PDR (*Dendrobium lamyaiae* and *Coelogyne sudora*) were first discovered in nurseries in Thailand. The extent of illegal trade of *Dendrobium* spp. was illustrated by a report of over 100,000 kg of dried, wild-collected stems exported illegally from the central region of Lao People's Democratic Republic to China for use in the Chinese medicine industry in one year (date not specified) (Schuiteman *et al*., 2008).

A search of information on seizures and prosecutions relating to plant species in the TRAFFIC Bulletin indicates that *Dendrobium* spp. feature highly in illegal trade, commonly as ingredients for medicinal products (TRAFFIC 2008b, TRAFFIC 2010) or as whole plants (dried or live) (TRAFFIC 2006, TRAFFIC 2008c). Singapore seized 83 wild-sourced orchids belonging to 24 species including *Dendrobium brymerianum*, *D. pachyphyllum*, *D. secundum*, *Trias picta*, and *Vanda testacea* from Thailand which were not accompanied by a CITES export permit (TRAFFIC 2006).

A number of seizures related to the confiscation of diet pill shipments containing *Hoodia* spp. as an ingredient (TRAFFIC 2007, TRAFFIC 2008c). Seizures of Cactaceae spp. were also reported with 62 live Cactaceae spp. specimens seized at Zaventum Airport in Brussels, including *Coryphantha* spp., *Lophophora williamsii*, *Mammillaria* spp., and *Matucana* spp. (TRAFFIC 2000a). The illegal collection and import of cycads also featured in reports of confiscations and seizures (TRAFFIC 2001).

A small number of seizures recorded in the TRAFFIC Bulletin related to the illegal trade in *Galanthus* spp., with 75,000 *Galanthus* plants and 2000 specimens of *Galanthus woronowii* seized in the Russian Federation in 2003 (TRAFFIC 2003). Several reports highlighted the illegal trade in American ginseng (*Panax quinquefolius*) as a medicinal ingredient (TRAFFIC 2004, TRAFFIC 2008c, TRAFFIC 2010) or as roots (TRAFFIC 2008b). A number of seizures included Costus root (*Saussurea costus*) (TRAFFIC 1999, TRAFFIC 2000a, TRAFFIC 2008b). In the United Kingdom, a shipment of 4,500 *Cyclamen* spp. bulbs from Iran was seized due to absence of the necessary permit (TRAFFIC 2000b).

Analysis of trade trends

An analysis of trade in artificially propagated plants listed in Appendix II (excluding timber) for the ten years 2001-2010 is summarised below, to identify: shifts in source code, emerging trade in artificially propagated plants, and trade where the country of export is not a range State. The analysis concerns trade specifically reported without a unit (e.g. number of individual live plants, flowers, leaves etc.) unless otherwise stated (e.g. trade was reported by weight).

Shifts in source code

Nine genera were traded in high volumes as both artificially propagated and wild-sourced specimens between 2001 and 2010 (>10,000 live plants from each source, according to importer-reported data). In four of these genera (*Dendrobium, Euphorbia, Zamia* and *Nepenthes*), wild-sourced trade comprised less than 2% of total imports of live plants over the ten-year period.

The proportions of wild-sourced and artificially propagated trade in the other five genera between 2001 and 2010 are shown in Figures 9-18. In one of these genera (*Galanthus*) the proportion of artificially propagated specimens imported over time is fairly constant until 2009, when the quantity of wild-sourced specimens decreased substantially (Figures 9 & 10). In another two of these genera (*Cyclamen* and *Ravenea*), there is an overall increase in the quantity and proportion of artificially propagated specimens imported over time (Figures 11-14). In the remaining two genera (*Pachypodium* and *Cyathea*), there has been more fluctuation in source over time, with an overall increase in the quantity and proportion of artificially propagated specimens until 2007 and a subsequent decline 2008-2010 (Figures 17-18).

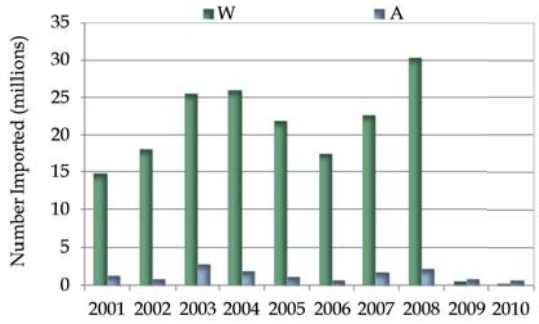

Figure 9. Number of wild-sourced ('W') and artificially propagated ('A') imports of live *Galanthus* spp., 2001-2010, as reported by importing countries.

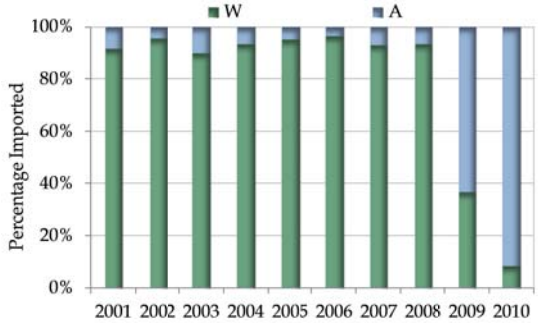

Figure 10. Proportion of wild-sourced ('W') and artificially propagated ('A') imports of live *Galanthus* spp., 2001-2010, as reported by importing countries.

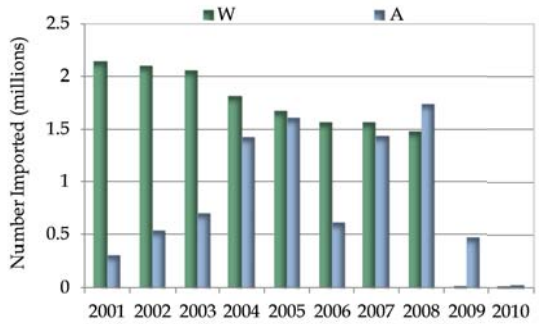

Figure 11. Number of wild-sourced ('W') and artificially propagated ('A') imports of live *Cyclamen* spp., 2001-2010, as reported by importing countries.

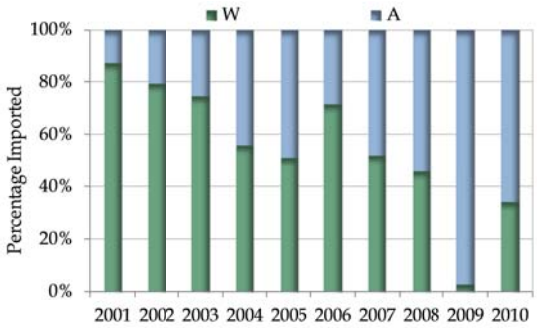

Figure 12. Proportion of wild-sourced ('W') and artificially propagated ('A') imports of live *Cyclamen* spp., 2001-2010, as reported by importing countries.

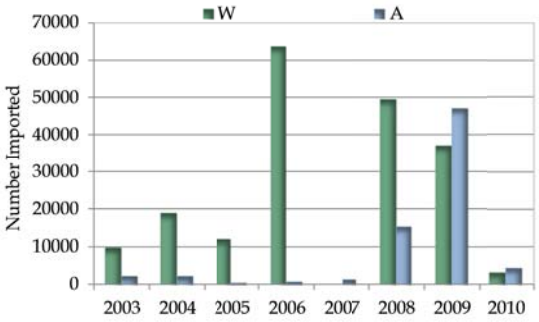

Figure 13. Number of wild-sourced ('W') and artificially propagated ('A') imports of live *Ravenea* spp., 2001-2010, as reported by importing countries.

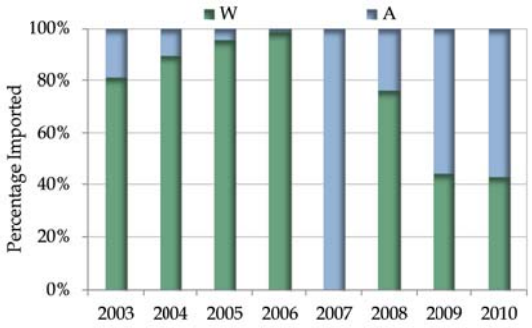

Figure 14. Proportion of wild-sourced ('W') and artificially propagated ('A') imports of live *Ravenea* spp., 2001-2010, as reported by importing countries.

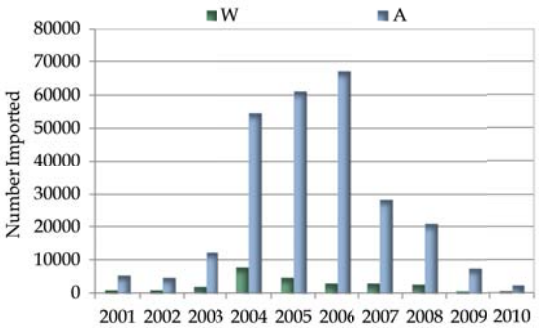

Figure 15. Number of wild-sourced ('W') and artificially propagated ('A') imports of live *Pachypodium* spp., 2001-2010, as reported by importing countries.

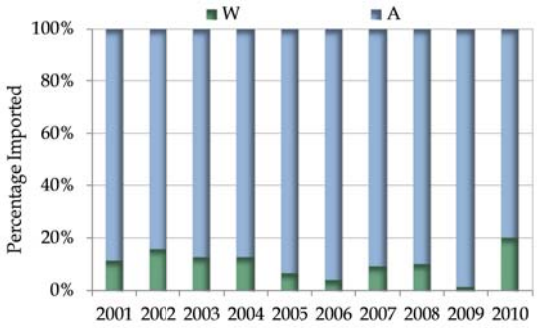

Figure 16. Proportion of wild-sourced ('W') and artificially propagated ('A') imports of live *Pachypodium* spp., 2001-2010, as reported by importing countries.

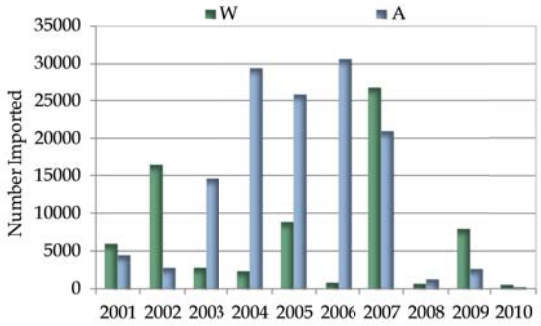

Figure 17. Number of wild-sourced ('W') and artificially propagated ('A') imports of live *Cyathea* spp., 2001-2010, as reported by importing countries.

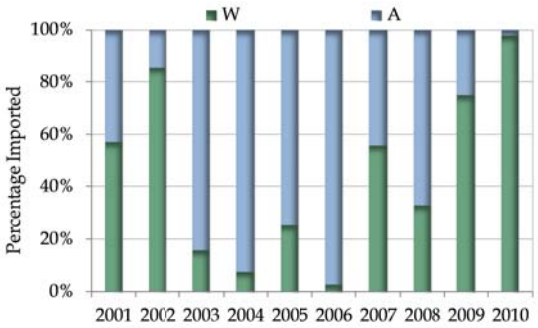

Figure 18. Proportion of wild-sourced ('W') and artificially propagated ('A') imports of live *Cyathea* spp., 2001-2010, as reported by importing countries.

Emerging trade in artificially propagated plants

Trade in artificially propagated specimens of 326 taxa appeared to be emerging, i.e. the taxon was reported at a level of 100 or more specimens (e.g. individual live plants, roots, etc.), for commercial purposes in either 2009 or 2010, and the volume reported in either 2009 or 2010 was more than three times the average trade volume for the five preceding years. Taxa for which a sharp increase in trade was identified included 32 species of *Bulbophllum* spp., 39 species of *Dendrobium* spp., 15 *Euphorbia* spp., 10 *Nepenthes* spp., 12 *Phalaenopsis* spp., and 10 *Vanda* spp., as well as hybrids of those taxa. *Nepenthes* hybrids showed a very sharp increase in trade, with no trade reported in the period 2002-2007 and commercial exports of a total of 39,285 live specimens reported between 2008 and 2010.

A list of these taxa emerging in trade could be provided to the Plants Committee for them to assess on the basis of expert knowledge whether specimens exported were likely to have been artificially propagated in accordance with the definition of this term contained in Resolution Conf. 11.11 (Rev. CoP13), and whether detailed reporting may be required. It is possible that some of these species may be newly described.

Trade reported by non-range States

Trade in artificially propagated specimens of most of the highly-traded species listed in Table 1 primarily originated in range States of the species. However, the majority of the trade in *Cycas revoluta,* the most highly traded artificially propagated species, originated in Costa Rica, a non-range State (59% of trade according to exporter-reported data). This species naturally occurs in China and Japan. Costa Rica first reported exports of 5813 live artificially propagated plants in 1991. Whilst imports to the country, which became a Party to the Convention in 1975, were not reported until 2001; seeds may have been legally acquired which are exempt from the provisions of the Convention.

Trade in *Gymnocalycium mihanovichii,* which is native to Argentina and Paraguay, also primarily originated in a non-range State of the species, the Republic of Korea (65% of trade according to exporter-reported data).

Conclusions on illegal trade in Appendix II plant taxa

- Substantial quantities of illegally traded plant specimens of species listed in Appendix II were confiscated/seized over the period 2006-2010. The analysis of data from annual reports suggests that illegal trade in orchids is most prevalent; Biennial report data indicates that seizures of cacti were more significant, and literature consulted suggests that both of these groups are represented highly in illegal trade. As orchids and cacti make up the majority of the legal trade, the seizure data are perhaps as expected.

- Focusing on the ten taxa most commonly reported as seized in annual reports for the period 2006-2010, virtually all of the legal trade in those taxa was in specimens produced by artificial propagation rather than collected from the wild. The most significant genus in illegal trade was *Phalaenopsis*. Over 25,000 specimens of the top ten taxa reported as seized were hybrids, which are unlikely to have been seized because of a false declaration of the source.

- Otherwise, it is rarely possible to infer illegal trade in artificially propagated plants from the CITES Trade Database. Seizures are generally reported under source code "I". If the reported origin of the seized specimens is reported (wild, artificially propagated) it is not included in the CITES Trade Database, which allows for inclusion of only one source code. There were no clear trends indicating significant increases in seizures/confiscations of live plants or over the period 2006-2010.

- Concern was raised by one Party that many newly listed species have been misdeclared as artificially propagated, where they are in fact wild-collected.

- There was very little evidence to indicate that trade had switched from wild to artificially propagated sources except possibly for *Cyclamen cilicium*. However, it appeared that many new taxa are emerging in trade as artificially propagated, with 326 taxa meeting a sharp increase criterion for the years 2009 or 2010. The list of emerging taxa could be provided to the Plants Committee for them to assess on the basis of expert opinion whether exports of such taxa are likely to be in accordance with Resolution Conf. 11.11 (Rev. CoP13), and whether detailed reporting of these taxa may be required.

Options for the Plants Committee to consider in relation to revised reporting of artificially propagated plants listed in Appendix II.

Strict control of the trade in Appendix II artificially propagated plants appears to put a significant burden on implementation of the reporting requirements of the Convention for Parties that have a high volume of trade in these taxa, according to some questionnaire responses.

Four options to streamline reporting for Appendix II artificially propagated plants are provided below for consideration by the Plants Committee, with a view to revising the current guidelines regarding the accepted taxonomic level of reporting.

There is only a very small percentage of reports that do not include the information outlined in Resolution Conf 12.3 (Rev. CoP15) - for example, inclusion of source and purpose codes, type of specimen (term), quantity in trade, and country of import and (re-export). Whilst reporting this information on a shipment-by-shipment basis is likely to be a burden for Parties, it can contribute to tracking changes in trends over time and it is therefore recommended that the Plants Committee consider retaining this guidance in conjunction with the potential options outlined below.

The options presented below, aim to reduce the reporting burden on Parties, whilst retaining the ability to monitor emerging trends and implementation of the Convention. It would also be possible to follow a combination of these possible approaches.

1. **Adopt the United States approach of reporting taxa of Appendix II artificially propagated plants according to their taxonomic level of listing in the CITES Appendices, whether it be at family, genus or species level.** Using this method, species included in the Appendices at the genus or family level are recorded at that level, so specimens of Orchidacae are recorded as Orchidaceae spp. This approach may have some benefits in that it is already tried and tested by one major importer which has implemented it for over 10 years. As the majority of the trade in artificially propagated plant taxa is in species that are listed at the family level (all Orchidaceae, Cactaceae and Cycadaceae) this would be a significant change in reporting. However, it is also noteworthy that the United States does retain species-specific information on file should further scrutiny be necessary.

   The downside of adopting the approach of recording at higher taxon level is that it apparently contravenes the requirement of the Convention to report on specimens of species included in Appendices I, II and III (Article VIII, paragraph 7 (a), and Paragraph 6 (b)). Also, in cases where taxa are traded as both artificially propagated plants and plants taken from the wild the detailed species-level information will no longer be available to detect unusual patterns of trade that may indicate implementation problems relating to unsustainable trade and/or illicit trade.

2. **Report trade at a higher taxonomic level for all re-exports of artificially propagated specimens of Appendix II species**

   According to the view that resources of CITES Authorities should be concentrated on specimens that first appear in international trade, species-level reporting may be less valuable for any subsequent re-exports of Appendix II artificially propagated plants. If this were found to be the case, trade in re-exports could be reported at either the genus or family level, provided that the re-exports are clearly distinguished from direct exports within annual reports by indication of the country of origin.

The limitations of this approach are i) it would not streamline reporting for a substantial proportion of the trade as the proportion of total trade in live specimens of species listed in Appendix II that is reportedly re- exported, (as indicated by inclusion of country of origin data in annual reports) is only 2.2% and 2.6% as reported by countries of import and countries of export, 2006-2010; ii) the evidential basis to support concentration on the first specimens that appear in trade is not clear.

3. **Report trade at genus level for hybrids only**

   The trade in hybrids represents a substantial proportion of the trade in artificially propagated plants (23% as reported by exporters, 2006-2010). There are no naturally occurring wild populations of hybrids listed on the CITES Appendices (i.e. they are all produced by methods of artificial propagation). As noted in PC14 Doc 8.1, referring to orchids specifically, the trade in artificially propagated hybrid orchids presents no discernible direct threat to wild orchid populations. Detailed reporting of trade in hybrids is therefore likely to be less valuable.

   All hybrids could be reported at the level of genus, or at the level of family where intrageneric hybrids are concerned. Currently, inclusion of intergeneric hybrids within the CITES Trade Database is at the family level due to limitations of the database.

   The benefit of this simple approach is that it would be relatively straightforward for Parties to implement. The current reporting exemption for only orchid hybrids may cause confusion, as some Parties report at the genus level for all orchid hybrids, and some Parties use this approach for all plant hybrids. Orchids do make up the vast majority of hybrids reported in trade (>99% according to export data, 2006-2010). The main limitation of this approach is that it would not streamline reporting for a substantial proportion of the trade.

4. **Provide detailed reports for newly described taxa and artificially propagated taxa that are not regularly found in trade or are emerging in trade. Taxa found regularly in trade could be reported at the genus/family level**

   This approach suggests that detailed reports (at the species level) would be required for:

   - newly described species (as determined by the Plants Committee)
   - taxa that have not previously been exported from a country as artificially propagated (in order to ensure that emerging trade trends continue to be captured)

   Detailed annual reports (at the species level) would not be required for species included in a list of taxa regularly found in trade as artificially propagated (based on levels of trade of over 100 specimens for 8 of the 10 most recent years, traded for commercial purposes). These taxa, along with all hybrids and re-exports could be reported at the family level. A list of species that are determined to be regularly occurring within trade, and for which reporting could be at the genus or family level, can be provided on request if necessary.

   A list could be circulated to Parties in the form of a notification or included within the *Guidelines for the preparation and submission of annual reports.* It would need to be updated fairly regularly (at least annually) to take account of emerging trade trends.

   The difficulty with this approach is again, that it would require Parties to consult an extensive list of species that would change over time, unless Parties are able to automate such processes in the context of tools such as electronic issue of permits.

Additional observations

- To maximise the utility of seizure data within biennial reports for further analysis of trends etc., guidelines for standardisation of the data will be required. It is recommended that the

CITES Standing Committee (perhaps through its Working Group on Special Reporting Requirements consider a standardised format for seizure reporting within biennial reports.

- A total of 76% of live plants reported as confiscated or seized originated from the Asian Region (as defined by CITES), this corresponds to the percentage of legal trade from Asia. Continued vigilance with regard to plant trade from the Asian Region is recommended.

- Parties that are developing electronic permitting systems that are capable of automated data exchange (e.g. via XML) may in future be able to submit their permit data directly for inclusion of annual report data within the CITES Trade Database. If Parties require full details of shipments for electronic permitting purposes, then, providing full details of all shipments of artificially propagated Appendix II plant trade should not present a reporting burden for Parties. The burden will remain for Parties without such electronic systems.

- Parties currently considering data exchange tools (webservices) may wish to participate in the UNEP-WCMC EPIX project (Electronic Permit Information Exchange), which allows other CITES Parties to query and exchange CITES Permit data over the internet in near-real time. This system could potentially be explored to test the feasibility of electronic capture of permit data to streamline annual reporting with regard to artificially propagated specimens of species included in Appendix II.

- The launch of the automated checklist of CITES species in 2013 may help to address the issue raised by Parties that consistent reporting of CITES standard nomenclature is problematic for artificially propagated plants, by providing a rapid search facility.

References

Búrquez, A. (2008). Sahuaro (*Carnegiea gigantea*) in Mexico. NDF Workshop Case Studies. WG 3 - Succulents and Cycads, Case Study 7.

CITES (2002). CITES World Official Newsletter of the Parties, Issue number 9, July 2002. CITES Secretariat, Geneva, Switzerland.

CITES (2004). CITES 14th session of the Plants Committee, 16-20 February 2004, Windhoek, Namibia.

Hemley, G. (1994). *International Wildlife Trade: A CITES Sourcebook.* Island Press, USA.

Holden, J. (1998). *By Hook or by Crook*. A reference manual on illegal wildlife trade and prosecutions in the United Kingdom. RSPB, The Lodge, Sandy, Bedfordshire.

Jenkins, M. & Oldfield, S. (1992). Wild Plants in Trade A TRAFFIC Network Report. TRAFFIC International, Cambridge, UK.

Knapp, A. (2006) A review of the trade in *Aloe ferox*, with a focus on the role of the European Union. A TRAFFIC Europe Report for the European Commission, Brussels, Belgium.

Newton, D.J. & Vaughan, H. (1996). South Africa's *Aloe ferox* Plant, Parts and Derivatives Industry. TRAFFIC East / Southern Africa. *In*: Knapp, A. (2006) A review of the trade in *Aloe ferox*, with a focus on the role of the European Union. A TRAFFIC Europe Report for the European Commission, Brussels, Belgium.

Oldfield, S. (1997). *Cactus and Succulent Plants - Status Survey and Conservation Action Plan*. IUCN / SSC Cactus and Succulent Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.

Rusea, G., Lim M.Y.L., Phoon S.N., Yong W.S.Y., Tang C.H., Khor H.E., Abdullah J.O., Abdullah J. (2009). Malaysian limestone orchids status: diversity, threat and conservation. Blumea, 54, 109-116.

Sarathum, S., Hegele, M., Tantiviwat, S., Nanakorn, M. (2010). Effect of Concentration and Duration of Colchicine Treatment on Polyploidy Induction in *Dendrobium scabrilingue* L. (2010) European Journal of Horticultural Science, 75, 3, 123-127.

Schuiteman, A., Bonnet, P., Svengsuksa, B., Barthélémy, D. (2008). An annotated checklist of the Orchidaceae of Laos. Nordic Journal of Botany, 26, 257-316.

TRAFFIC (1999). TRAFFIC Bulletin Vol. 18 No. 1, TRAFFIC International, Cambridge, UK.

TRAFFIC (2000a). TRAFFIC Bulletin Vol. 18 No. 3, TRAFFIC International, Cambridge, UK.

TRAFFIC (2000b). TRAFFIC Bulletin Vol. 18 No. 2, TRAFFIC International, Cambridge, UK.

TRAFFIC (2001). TRAFFIC Bulletin Vol. 19 No. 1, TRAFFIC International, Cambridge, UK.

TRAFFIC (2003). TRAFFIC Bulletin Vol. 19 No. 3, TRAFFIC International, Cambridge, UK.

TRAFFIC (2004). TRAFFIC Bulletin Vol. 20 No. 1, TRAFFIC International, Cambridge, UK.

TRAFFIC (2006). TRAFFIC Bulletin Vol. 21, No. 1, TRAFFIC International, Cambridge, UK.

TRAFFIC (2007). TRAFFIC Bulletin Vol. 21, No. 2, TRAFFIC International, Cambridge, UK.

TRAFFIC (2008a). *Halting Biodiversity Loss: Towards Sustainable Wildlife Trade in Central America.* TRAFFIC International, Cambridge, UK.

TRAFFIC (2008b). TRAFFIC Bulletin Vol. 22 No. 1, TRAFFIC International, Cambridge, UK.

TRAFFIC (2008c). TRAFFIC Bulletin Vol. 21, No. 3, TRAFFIC International, Cambridge, UK.

TRAFFIC (2009). TRAFFIC Bulletin Seizures and Prosecutions: Vol. 16 No.3 (March 1997) to Vol. 22 No. 2 (June 2009). TRAFFIC International, Cambridge, UK.

TRAFFIC (2010). TRAFFIC Bulletin Vol. 22, No. 3, TRAFFIC International, Cambridge, UK.

Annex A

Questionnaire on
Reporting of Trade in Artificially Propagated Plants
of species in CITES Appendix II

This questionnaire has been prepared by UNEP-WCMC to gather information on the practices of Parties in the reporting of trade in artificially propagated plants of species in CITES Appendix II in order to assist the CITES Secretariat in implementing Decision 14.39 (Rev. CoP15).

Name of country submitting information.....

1. Do the annual reports of your country include data on trade in artificially propagated plants of species in Appendix II? .....YES/NO
   If you answered 'NO', go to question 3.

2. If 'YES', please select a), b) or c) below to specify how this trade is reported within annual reports:

   a) Each individual permit is recorded
      If you selected a): which of the following details are included in the annual report:
      ☐ Appendix
      ☐ Species
      ☐ Purpose of transaction
      ☐ Part/derivative code (e.g. LIV, ROO)
      ☐ Quantity
      ☐ Source
      ☐ Country of import/export/origin if re-export
      ☐ Permit number

   b) The report contains a summary of permits issued
      If you selected b): please specify below how permits are summarised, e.g. taxonomic groups, country of import, country of export, or other):
   .....
   .....
   .....
   .....

   c) Trade is reported in another way
      If you selected c): please specify how the trade is reported:
   .....
   .....
   .....
   .....

3. Please tick one of the options below, to indicate at which taxonomic level you report the trade:
   ☐ Species level
   ☐ Genus level
   ☐ Family level
   ☐ It varies, depending on the plants being traded

If you selected 'it varies [...]': on what basis do you determine the appropriate level? .....
.....

4. Concerning trade in hybrids, please tick one or more of the options below to indicate how the trade is reported:

☐ The parent species of hybrids are specified
☐ Reporting is at the higher taxon level and "hybrid" is specified for Orchids only
☐ Reporting is at the higher taxon level and "hybrid" is specified for all taxonomic groups
☐ Other (please specify).....

5. Are confiscations and seizures of Appendix II artificially propagated plants reported in your:

☐ CITES annual reports
☐ CITES biennial reports

6. Can you provide any additional details of known illegal trade in artificially propagated plants that has not already been reported through annual or biennial reports?
.....
.....
.....
.....
.....

Please provide any other relevant comments on reporting of artificially propagated plants of species in CITES Appendix II

.....
.....
.....
.....

Name of person completing questionnaire.....

Email address.....

On behalf of: Management Authority / Scientific Authority (delete which does not apply)

Thank you for taking the time to complete this questionnaire. Please return it to UNEP-WCMC before 30 April 2012. Printed copies can be handed to the UNEP-WCMC representative at the CITES Plants Committee on 26th or 27th March. Electronic copies should be submitted to species@unep-wcmc.org

UNEP WCMC