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International Union for the Protection of New Varieties of Plants

Technical Working Party for Ornamental Plants and Forest Trees Fifty-First Session Christchurch, New Zealand, February 18 to 22, 2019	**TWP/3/4** **Original:** English **Date:** January 31, 2019

Technical Working Party for Vegetables
Fifty-Third Session
Seoul, Republic of Korea, May 20 to 24, 2019

Technical Working Party for Fruit Crops
Fiftieth Session
Budapest, Hungary, June 24 to 28, 2019

Technical Working Party for Agricultural Crops
Forty-Eighth Session
Montevideo, Uruguay, September 16 to 20, 2019

Technical Working Party on Automation and Computer Programs
Thirty-Seventh Session
Hangzhou, China, October 14 to 16 (morning), 2019

UPOV INFORMATION DATABASES

Document prepared by the Office of the Union

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EXECUTIVE SUMMARY

1.   The purpose of this document is to provide an update on developments concerning the GENIE database, UPOV Codes and the PLUTO database.

2.   The TWPs are invited to:

       (a)   note that 242 new UPOV codes were created in 2018 and a total of 8,844 UPOV codes are included in the GENIE database, as set out in paragraph 9 of this document;

       (b)   note that the TC, at its fifty-fourth session, agreed not to delete the UPOV Codes for sweet corn and popcorn, therefore creating an exception to the "Guide to the UPOV Code System", as set out in paragraph 15 of this document;

       (c)   note that amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019, as set out in paragraph 16 of this document;

       (d)   note that the TC agreed to amend the UPOV codes for subspecies in the *Mucuna* genus, as set out in paragraph 20 of this document;

       (e)   note that the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 21 of this document;

       (f)   note that the TC agreed to correct the UPOV codes for *Sesbania sesban*, as set out in paragraph 25 of this document;

(g)   note that the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 26 of this document;

(h)   note that the TC agreed not to delete the UPOV Codes for *Brassica oleracea*, therefore creating an exception to the "Guide to the UPOV Code System", as set out in paragraph 32 of this document;

(i)   note that amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019, as set out in paragraph 33 of this document;

(j)   note that the TC agreed the changes of the UPOV codes for *Epichloe* species and *Neotyphodium* species, as set out in paragraph 37 of this document;

(k)   note that the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 38 of this document;

(l)   note the summary of contributions to the PLUTO database from 2015 to 2018 and the current situation of members of the Union on data contribution, as presented in the Annex I to this document;

(m)   note developments concerning the possible expansion of the content of the PLUTO Database, as set out in paragraph 87 of this document; and

(n)   note that the proposals by the WG-DEN at its fifth session concerning possible expansion of the content of the PLUTO database will be considered by the CAJ, at its seventy-sixth session, to be held in Geneva on October 30, 2019, as set out in paragraph 89 of this document.

3.   The TWO, TWV, TWF and TWA are invited to:

(a)   check the amendments to UPOV codes, the new UPOV codes or new information added for existing UPOV codes, and the UPOV codes used in the PLUTO database for the first time, which are provided in Annex II to this document; and

(b)   submit comments on Annex II, part A "UPOV codes amendments to be checked", part B "New UPOV codes or new information", and part C "Crop type(s) of UPOV codes used in the PLUTO database for the first time" to the Office of the Union by December 31, 2019.

4.   The TWO is invited to consider:

(a)   the proposal to delete the UPOV Codes ECSED and ECSED_EMO, as set out in paragraph 46 of this document;

(b)   the proposal to delete the UPOV Codes CRTNT and CRTNT_CAL, as set out in paragraph 51 of this document;

(c)   the proposal to delete the UPOV Codes ISOPL, DGISO, ISOPL_CAN and DGISO_PCA, as set out in paragraph 56 of this document;

(d)   the proposal to delete the UPOV Codes LOBIV and LOBIV_SIL, as set out in paragraph 63 of this document;

(e)   the proposal to delete the UPOV Codes ASCOC, ASNEO, NEOFI and NEOFI_FAL, as set out in paragraph 64 of this document;

(f)   the proposal to delete the UPOV Codes HAWOR_FAS, HAWOR_LIM, HAWOR_LFA and HAWOR_MAR, as set out in paragraph 68 of this document;

(g)   the proposal to delete the UPOV Codes MAHON, MAHON_ACA, MAHON_AQU, MAHON_BEA, MAHON_JAP, MAHON_LOM, MAHON_PUM and MAHON_REP, as set out in paragraph 72 of this document; and

(h)   the proposal to delete the UPOV Codes HOMLC and HOMLC_PLA, as set out in paragraph 76 of this document.

5.   The following abbreviations are used in this document:

CAJ: Administrative and Legal Committee
GRIN :   Germplasm Resources Information Network
TC: Technical Committee
TWA: Technical Working Party for Agricultural Crops
TWC: Technical Working Party on Automation and Computer Programs
TWF: Technical Working Party for Fruit Crops
TWO: Technical Working Party for Ornamental Plants and Forest Trees
TWP(s):   Technical Working Party(ies)
TWV: Technical Working Party for Vegetables
WG-DEN: Working Group on Variety Denominations

6.   The structure of this document is as follows:

GENIE DATABASE

Background

7.   It is recalled that the GENIE database (http://www.upov.int/genie/en/) has been developed to provide, for example, online information on the status of protection (see document C/[session]/6), cooperation in examination (see document C/[session]/5), experience in DUS testing (see document TC/[session]/4), and existence of UPOV Test Guidelines (see document TC/[session]/2) for different GENera and specIEs (hence GENIE), and is used to generate the relevant Council and TC documents concerning that information. In addition, the GENIE database is the repository of the UPOV codes and also provides information concerning alternative botanical and common names.

UPOV CODE SYSTEM

Guide to the UPOV Code System

8.   The "Guide to the UPOV Code System" is available on the UPOV website (see http://www.upov.int/genie/en/pdf/upov_code_system.pdf).

UPOV code developments

9.   In 2018, 242 new UPOV codes were created and amendments were made to five existing UPOV codes. The total number of UPOV codes in the GENIE database at the end of 2018 was 8,844.

	Year								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
New UPOV codes	114	173	212	209	577	188	173	440	242
Amendments	6	12	5	47*	37	11	16	1	5
Total UPOV Codes (at end of year)	6,683	6,851	7,061	7,251	7,808	7,992	8,149	8,589	8,844

*   including changes to UPOV codes resulting from the amendment of the "Guide to the UPOV Code System" concerning hybrids (see document TC/49/6).

10.   The TWPs are invited to note that 242 new UPOV codes were created in 2018 and a total of 8,844 UPOV codes are included in the GENIE database, as set out in paragraph 9 of this document.

UPOV code amendments considered by the TC at its fifty-fourth session

11.   The following sections present UPOV code amendments considered by the Technical Committee (TC) at its fifty-fourth session, held in Geneva, on October 29 and 30, 2018 and the conclusions of the TC.

UPOV code "ZEAAA_MAY_SAC", "ZEAAA_MAY_EVE" and "ZEAAA_MAY_MIC"

12.   The background to this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraphs 20 to 23.

13.   The Technical Working Party for Agricultural Crops (TWA), at its forty-seventh session, held in Naivasha, Kenya, from May 21 to 25, 2018, considered the proposal to delete the UPOV Codes ZEAAA_MAY_SAC, ZEAAA_MAY_EVE and ZEAAA_MAY_MIC and for *Zea mays* L. var. *saccharata*, *Zea mays* L. var. *everta* (Praecox) Sturt. and *Zea mays* L. convar. *microsperma* Koern to be covered by the UPOV Code ZEAAA_MAY_MAY. The TWA noted that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors (see document TWA/47/7 "Report", paragraph 85).

14.   The Technical Working Party for Vegetables (TWV), at its fifty-second session, held in Beijing, China, from September 17 to 21, 2018, noted the comment made by the TWA on the proposal to amend codes for ZEAAA, as set out in paragraph 23 of document TWP/2/4 Rev., and agreed with the TWA that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWV noted that TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors (see document TWV/52/20 "Report", paragraph 94).

15.   The TC, at its fifty-fourth session, noted the requests of the TWA, at its forty-seventh session, and the TWV, at its fifty-second session, and agreed not to delete the UPOV Codes for sweet corn and popcorn, therefore creating an exception to the "Guide to the UPOV Code System". It agreed that this exception should

be presented in an amendment to the "Guide to the UPOV Code System" (see document TC/54/31 "Report", paragraphs 297).

16.   Amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019.

17.   The TWPs are invited to note that:

(a)   the TC, at its fifty-fourth session, agreed not to delete the UPOV Codes for sweet corn and popcorn, therefore creating an exception to the "Guide to the UPOV Code System", as set out in paragraph 15 of this document; and

(b)   amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019, as set out in paragraph 16 of this document.

Mucuna genus

18.   The background to this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraphs 24 to 26.

19.   The TWA, at its forty-seventh session, agreed with the deletion of the UPOV codes MUCUN_PRU_ATE, MUCUN_PRU_COC and MUCUN_PRU_DEE and the creation of the new UPOV Code MUCUN_PRU_UTI (*Mucuna pruriens* (L.) DC. var. *utilis*) covering the synonyms *M. aterrima*, *M. cochinchinensis* and *M. deeringiana* (see document TWA/47/7 "Report", paragraph 86)*.*

20.   The TC, at its fifty-fourth session, agreed to amend the UPOV codes for subspecies in the *Mucuna* genus, as follows (see document TC/54/31 "Report", paragraphs 298):

Current			Proposal		
UPOV code	Principal botanical name	Other botanical names	UPOV code	Principal botanical name	Other botanical names
n.a.	n.a.	n.a.	MUCUN_PRU_UTI	*Mucuna pruriens* (L.) DC. var. *utilis* (Wall. ex Wight) Baker ex Burck	*Mucuna aterrima* (Piper & Tracy) Holland; *Mucuna cochinchinensis* (Lour.) A. Chev.) ; *Mucuna deeringiana* (Bort) Merr.; *Stizolobium deeringianum* Bort
MUCUN_PRU_ATE	*Mucuna aterrima* (Piper & Tracy) Holland.	n.a.	[to delete]	n.a.	n.a.
MUCUN_PRU_COC	*Mucuna cochinchinensis* (Lour.) A. Chev.	n.a.	[to delete]	n.a.	n.a.
MUCUN_PRU_DEE	*Mucuna deeringiana* (Bort) Merr.	*Stizolobium deeringianum* Bort	[to delete]	n.a.	n.a.

21.   On December 17, 2018, the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the Administrative and Legal Committee (CAJ), TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019.

*22.	The TWPs are invited to note that:*

*(a)	the TC agreed to amend the UPOV codes for subspecies in the Mucuna genus, as set out in paragraph 20 of this document; and*

*(b)	the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 21 of this document.*

UPOV code for Sesbania sesban

23.	The background to this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraphs 27 to 29.

24.	The TWA, at its forty-seventh session, agreed with the proposal to correct the UPOV Code for the species *Sesbania sesban* (L.) Merr. from "SENNA_SES" to read "SESBA_SES" (see document TWA/47/7 "Report", paragraph 87).

25.	The TC, at its fifty-fourth session, agreed to correct the UPOV Codes for *Sesbania sesban*, as follows (see document TC/54/31 "Report", paragraphs 299):

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
SENNA_SES	*Sesbania sesban* (L.) Merr.	n.a.	SESBA_SES	*Sesbania sesban* (L.) Merr.	n.a.

26.	On December 17, 2018, the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019.

*27.	The TWPs are invited to note that:*

*(a)	the TC agreed to correct the UPOV codes for Sesbania sesban, as set out in paragraph 25 of this document; and*

*(b)	the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 26 of this document.*

Brassica oleracea

28.	The background to this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraphs 30 to 43.

29.	The TWV, at its fifty-second session, considered the proposal to amend UPOV codes for *Brassica oleracea* with the consequent changes to the UPOV codes, as set out in Annex II to document TWP/2/4 Rev. (see document TWV/52/20 "Report", paragraphs 92 to 94).

30.	The TWV considered the proposal to allocate the UPOV code BRASS_OLE to the hybrids between *Brassica oleracea* L. var. *acephala* and *Brassica oleracea* L. var. *botrytis*, as set out in paragraph 42 of document TWP/2/4 Rev.

31.   The TWV noted the comment made by the TWA, at its forty-seventh session, on the proposal to amend codes for ZEAAA, as set out in paragraph 23 of document TWP/2/4 Rev., and agreed with the TWA that the information on the type of maize varieties (popcorn, sweet corn) was useful for the grouping of varieties and organization of the growing trials. The TWV noted that TWA agreed that information on the type of maize varieties should remain in the database and should continue to be provided by data contributors. The TWV further agreed that the same approach should be followed for *Brassica* with regard to red and white cabbage.

32.   The TC, at its fifty-fourth session, noted the opinion provided by the TWV, at its fifty-second session, and agreed not to delete the UPOV Codes for *Brassica oleracea*, therefore creating an exception to the "Guide to the UPOV Code System". It agreed that this exception should be presented in an amendment to the "Guide to the UPOV Code System" (see document TC/54/31 "Report", paragraphs 301).

33.   Amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019.

34.   The TWPs are invited to note that:

(a)   the TC agreed not to delete the UPOV Codes for Brassica oleracea, therefore creating an exception to the "Guide to the UPOV Code System", as set out in paragraph 32 of this document; and

(b)   amendments to the "Guide to the UPOV Code System" will be considered by the TC, at its fifty-fifth session, to be held in Geneva on October 28 and 29, 2019, as set out in paragraph 33 of this document.

UPOV codes for Epichloe species and Neotyphodium species

35.   The background to this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraphs 44 to 47.

36.   The TWV, at its fifty-second session, agreed with proposal to amend UPOV Codes for *Epichloe* species and *Neotyphodium species*, as set out in paragraphs 54 and 55 of this document (see document TWV/52/20 "Report", paragraph 95).

37.   The TC, at its fifty-fourth session, considered the UPOV codes for *Epichloe* species and *Neotyphodium* species, in conjunction with the comments by the TWV, at its fifty-second session, and agreed the changes as follows (see document TC/54/31 "Report", paragraphs 302):

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
NEOTY	*Neotyphodium*	n.a.	EPICH	*Epichloe* (Fr.) Tul. & C. Tul.	*Neotyphodium* Glenn, C.W. Bacon & Hanlin; *Cordyceps* subgen. *Epichloe* Fr.
NEOTY_ACR	*Neotyphodium acremonium*	*Acremonium*	[to delete]	n.a.	n.a.
NEOTY_COE	*Neotyphodium coenophialum*	n.a.	EPICH_COE	*Epichloe coenophiala* (Morgan-Jones & W. Gams) C.W. Bacon & Schardl	*Acremonium coenophialum* Morgan-Jones & W. Gams; *Neotyphodium coenophialum* (Morgan-Jones & W. Gams) Glenn, C.W. Bacon & Hanlin; *Epichloe typhina sensu* Neill
NEOTY_LOL	*Neotyphodium lolii*	n.a.	[ELSIN_LOL]	*Elsinoe lolii* [once published in a Code compliant form]	*Neotyphodium lolii* (Latch, M.J. Chr. & Samuels) Glenn, C.W. Bacon & Hanlin
NEOTY_UNC	*Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin	n.a.	EPICH_UNC	*Epichloe uncinata* (W. Gams, Petrini & D. Schmidt) Leuchtm. & Schardl	*Acremonium uncinatum* W. Gams, Petrini & D. Schmidt; *Neotyphodium uncinatum* (W. Gams, Petrini & D. Schmidt) Glenn, C.W. Bacon & Hanlin

38.   On December 17, 2018, the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019.

39.   The TWPs are invited to note that:

(a)   the TC agreed the changes of the UPOV codes for Epichloe species and Neotyphodium species, as set out in paragraph 37 of this document; and

(b)   the Office of the Union issued Circular E-18/208 to the designated persons of the members of the Union in the TC, the CAJ, TWPs and contributors to PLUTO, announcing the amendment UPOV codes and requesting contributors to PLUTO to use the amended UPOV codes from February 22, 2019, as set out in paragraph 38 of this document.

Proposed amendments for consideration by the TWPs in 2019

40.   The following sections present proposals for amendments to UPOV codes for consideration by the TWPs at their session in 2019.

41.   Section 3.3 of the "Guide to the UPOV Code System" provides the following:

"Amendments to UPOV codes will be handled by the same procedure as the introduction of new UPOV codes […]. However, in addition, all members of the Union and contributors of data to the Plant Variety Database will be informed of any amendments" .

42.   The conclusions at the TWPs as indicated in the following sections, for amendments to UPOV codes, will be presented at the fifty-fifth session of the TC.

43.   According to the conclusions at the fifty-fifth session of the TC on the matters presented in the following sections, members of the Union and contributors of data to the PLUTO database will be informed of the changes and the date of the changes by means of a circular in advance. Contributors of data to the PLUTO database will be requested to use the amended UPOV codes when submitting their plant variety data to the Office of the Union.

UPOV code for inter-generic hybrids between Echeveria and Sedum

Background

44.   The Office of the Union was informed of the duplication of UPOV codes for inter-generic hybrids between *Echeveria* and *Sedum*.

45.   The current entries in the GENIE database for inter-generic hybrids between *Echeveria* and *Sedum*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
SEDEV	*xSedeveria* spp.	*xSedeveria* E. Walther (with a comment "= Sedum × Echeveria")	n.a.	1
ECSED	*Echeveria* DC. x *Sedum* L.	*xSedeveria* E. Walther (with a comment "= Sedum × Echeveria")	n.a.	0
ECSED_EMO	*Echeveria elegans* Rose. *x Sedum morganianum* E. Walther	n.a.	n.a.	0

Proposal

46.   The Technical Working Party for Ornamental Plants and Forest Trees (TWO) might wish to consider deletion of the UPOV Codes ECSED and ECSED_EMO. *Echeveria elegans* x *Sedum morganianum* would be covered by the new UPOV Code SEDEV_EMO, which the Office of the Union would create. The principal botanical name of the UPOV Code SEDEV would include the wording "(hybrids between *Echeveria* DC. and *Sedum* L.)" after "*xSedeveria* E. Walther". *Echeveria lilacina* x *Sedum suaveolens* would be covered by the the new UPOV Code SEDEV_LSU, which the Office of the Union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
SEDEV	*xSedeveria spp.*	*Echeveria lilacina* Kimnach & R. C. Moran x Sedum suaveolens Kimnach; Sedeveria	SEDEV	*xSedeveria* E. Walther (hybrids between *Echeveria* DC. and *Sedum* L.)	n.a.
ECSED	*Echeveria* DC. x *Sedum* L.	n.a.			
n.a.	n.a.	n.a.	SEDEV_LSU	Echeveria lilacina Kimnach & R. C. Moran x Sedum suaveolens Kimnach	n.a.
ECSED_EMO	*Echeveria elegans* Rose. x *Sedum morganianum* E. Walther	n.a.	SEDEV _EMO	*Echeveria elegans* Rose. x *Sedum morganianum* E. Walther	n.a.

47. The TWO is invited to consider the proposal to delete the UPOV Codes ECSED and ECSED_EMO, as set out in paragraph 46 of this document.

UPOV codes for Platostoma and Platostoma calcaratum

Background

48. The Office of the Union was informed of the duplication of UPOV codes for *Platostoma* and *Platostoma calcaratum*.

49. The current entries in the GENIE database for *Platostoma* and *Platostoma calcaratum*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
PLATO	*Platostoma* P. Beauv.	*Platostoma* P. Beauv.	n.a.	0
CRTNT	*Ceratanthus*	*Platostoma* P. Beauv. (synonym: *Ceratanthus* F. Muell. ex G. Taylor)	n.a.	0
PLATO_CAL	*Platostoma calcaratum* (Hemsl.) A. J. Paton	*Platostoma calcaratum* (Hemsl.) A. J. Paton	n.a.	0
CRTNT_CAL	*Ceratanthus calcaratus* (Hemsl.) G. Taylor	*Platostoma calcaratum* (Hemsl.) A. J. Paton (synonym: *Ceratanthus calcaratus* (Hemsl.) G. Taylor)	n.a.	1

50. The deletion of the UPOV Codes CRTNT and CRTNT_CAL was presented in Annex III, part A "UPOV codes amendments to be checked" to document TWO/48/5 "UPOV Information Databases" but has not yet been implemented.

Proposal

51. The TWO might wish to consider deletion of the UPOV Codes CRTNT and CRTNT_CAL. *Ceratanthus* would be covered by the UPOV Code PLATO and *Ceratanthus calcaratus* would be covered by the UPOV Code PLATO_CAL, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
PLATO	*Platostoma* P. Beauv.	*Ceratanthus*	PLATO	*Platostoma* P. Beauv.	*Ceratanthus* F. Muell. ex G. Taylor
CRTNT	*Ceratanthus*	n.a.			
PLATO_CAL	*Platostoma calcaratum* (Hemsl.) A. J. Paton	Ceratanthus calcaratus (Hemsl.) G. Taylor	PLATO_CAL	*Platostoma calcaratum* (Hemsl.) A. J. Paton	*Ceratanthus calcaratus* (Hemsl.) G. Taylor
CRTNT_CAL	*Ceratanthus calcaratus* (Hemsl.) G. Taylor	n.a.			

52. The TWO is invited to consider the proposal to delete the UPOV Codes CRTNT and CRTNT_CAL, as set out in paragraph 51 of this document.

UPOV codes for Digitalis, Isoplexis and hybrids between Digitalis and Isoplexis

Background

53.   The Office of the Union was informed of the duplication of UPOV codes for *Digitalis*, *Isoplexis* and hybrids between *Digitalis* and *Isoplexis*.

54.   The current entries in the GENIE database for *Digitalis*, *Isoplexis* and hybrids between *Digitalis* and *Isoplexis* and their species, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
DGTLS	*Digitalis* L.	*Digitalis* L.	Foxglove	26
ISOPL	*Isoplexis* (Lindl.) Loudon	*Digitalis* L. (synonym: *Isoplexis* (Lindl.) Loudon)	n.a.	0
DGISO	*Digitalis* L. × *Isoplexis* (Lindl.) Loudon	n.a.	n.a.	0
ISOPL_CAN	*Isoplexis canariensis* (L.) Lindl.	*Digitalis canariensis* L. (synonym: *Isoplexis canariensis* (L.) Lindl.)	n.a.	0
DGTLS_VAL	*Digitalis xvalinii* J. D. Arm.	*Digitalis ×valinii* J. D. Arm. (synonym: *Digitalis canariensis × Digitalis purpurea*)	n.a.	9
DGISO_PCA	*Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.*	n.a.	n.a.	8

55.   The deletion of the UPOV Codes ISOPL, DGISO and DGISO_PCA was presented in Annex III, part A "UPOV codes amendments to be checked" to document TWP/1/4 "UPOV information databases" but has not yet been implemented.

Proposal

56.   The TWO might wish to consider deletion of the UPOV Codes ISOPL, DGISO, ISOPL_CAN and DGISO_PCA. *Isoplexis* would be covered by the UPOV Code DGTLS as a synonym of *Digitalis* and *Isoplexis canariensis* would be covered by the new UPOV Code DGTLS_CAN, which the Office of the Union would create. *Digitalis purpurea × Isoplexis canariensis* would be covered by the UPOV Code DGTLS_VAL, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
DGTLS	*Digitalis* L.	*Digiplexis* ined.?; *Isoplexis* (Lindl.) Loudon	DGTLS	*Digitalis* L.	×*Digiplexis* ined.; *Isoplexis* (Lindl.) Loudon ; *Digitalis* L. × *Isoplexis* (Lindl.) Loudon
ISOPL	*Isoplexis* (Lindl.) Loudon	n.a.			
DGISO	*Digitalis* L. × *Isoplexis* (Lindl.) Loudon	n.a.			
ISOPL_CAN	*Isoplexis canariensis* (L.) Lindl.	n.a.	DGTLS _CAN	*Digitalis canariensis* L.	*Isoplexis canariensis* (L.) Lindl
DGTLS_VAL	*Digitalis xvalinii* J. D. Arm.	*Digitalis canariensis* × *Digitalis purpurea*	DGTLS_VAL	*Digitalis xvalinii* J. D. Arm.	*Digitalis canariensis* × *Digitalis purpurea*; *Digitalis purpurea* L. × *Isoplexis canariensis* (L.) Lindl.
DGISO_PCA	*Digitalis purpurea* L. × *Isoplexis canariensis (L.) Lindl.*	n.a.			

57.   The TWO is invited to consider the proposal to delete the UPOV Codes ISOPL, DGISO, ISOPL_CAN and DGISO_PCA, as set out in paragraph 56 of this document.

UPOV codes for Lobivia and Echinopsis chamaecereus

Background

58.   The Office of the Union was informed of the reclassification of *Lobivia* to *Echinopsis*, and a misallocation of the UPOV code for *Echinopsis chamaecereus*.

59.   The current entries in the GENIE database for *Lobivia* genus and *Echinopsis chamaecereus*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
LOBIV	*Lobivia*	*Lobivia* Britton & Rose	n.a.	3
LOBIV_SIL	*Echinopsis chamaecereus* H. Friedrich & Glaetzle	*Echinopsis chamaecereus* H. Friedrich & Glaetzle (synonym: *Lobivia silvestrii* (Speg.) G. D. Rowley)	Peanut Cactus	17

Proposal

60.   In accordance with the reclassification of *Lobivia* to *Echinopsis*, the TWO might wish to consider deletion of the UPOV Codes LOBIV and LOBIV_SIL. *Lobivia* genus would be covered by the UPOV Code ECHIN and *Echinopsis chamaecereus* would be covered by a new UPOV Code ECHIN_CHA, which the office of the union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
ECHIN	*Echinopsis* Zucc.	*Acanthocalycium* Backeb.; *Acantholobivia* Backeb.; *Acanthopetalus* Y. Itô; etc.	ECHIN	*Echinopsis* Zucc.	*Lobivia* Britton & Rose; *Acanthocalycium* Backeb.; *Acantholobivia* Backeb.; *Acanthopetalus* Y. Itô etc.
LOBIV	*Lobivia*	n.a.			
LOBIV_SIL	*Echinopsis chamaecereus* H. Friedrich & Glaetzle	*Chamaecereus silvestrii* (speg.) Britton et Rose; *Lobivia silvestrii* (speg.) G.D. Rowley	ECHIN_CHA	*Echinopsis chamaecereus* H. Friedrich & Glaetzle	*Cereus silvestrii* Speg.; *Chamaecereus silvestrii* (Speg.) Britton & Rose; *Lobivia silvestrii* (Speg.) G. D. Rowley

61.   The TWO is invited to consider the proposal to delete the UPOV Codes LOBIV and LOBIV_SIL, as set out in paragraph 63 of this document.

UPOV codes for Ascocentrum and Neofinetia, hybrids between Ascocentrum and Neofinetia and Neofinetia falcata

Background

62.   The Office of the Union was informed of the reclassification of *Ascocentrum* and *Neofinetia* to *Vanda*.

63.   The current entries in the GENIE database for *Ascocentrum* and *Neofinetia* genera, their hybrids and *Neofinetia falcata*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
ASCOC	*Ascocentrum* Schltr. ex J. J. Sm.	*Vanda* Jones ex R. Br. (synonym: *Ascocentrum* Schltr. ex J. J. Sm.)	n.a.	0
ASNEO	*Ascocentrum x Neofinetia*	n.a.	n.a.	0
NEOFI	*Neofinetia* Hu	*Vanda* Jones ex R. Br. *(synonym: Neofinetia Hu)*		0
NEOFI_FAL	*Neofinetia falcata* (Thunb.) Hu	*Vanda falcata* (Thunb.) Beer (synonym: *Neofinetia falcata* (Thunb.) Hu)	n.a.	3

Proposal

64.   In accordance with the reclassification of *Ascocentrum* and *Neofinetia* to *Vanda*, the TWO might wish to consider deletion of the UPOV codes ASCOC, ASNEO, NEOFI and NEOFI_FAL. *Ascocentrum* and *Neofinetia* genera would be covered as synonyms of *Vanda* genus under the UPOV Code VANDA. *Neofinetia falcata* would be covered *as a synonym of Vanda falcata under* a new UPOV code VANDA_FAL, which the office of the union would create, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
VANDA	*Vanda* Jones	n.a.	VANDA	*Vanda Jones ex R. Br.*	*Ascocentrum* Schltr. ex J. J. Sm.; *Neofinetia* Hu; *Ascocentrum x Neofinetia*; *Ascofinetia*; *Ascocentropsis* Senghas & Schildh.; *Christensonia* Haager; *Eparmatostigma* Garay; *Euanthe* Schltr.; *Gunnaria* S. C. Chen ex Z. J. Liu & L. J. Chen; *Seidenfadenia* Garay; *Trudelia* Garay
ASCOC	*Ascocentrum* Schltr. ex J. J. Sm.	n.a.			
NEOFI	*Neofinetia* Hu	n.a.			
ASNEO	*Ascocentrum x Neofinetia*	*Ascofinetia*			
NEOFI_FAL	*Neofinetia falcata* (Thunb.) Hu	n.a.	VANDA_FAL	*Vanda falcata* (Thunb.) Beer	*Neofinetia falcata* (Thunb.) Hu; *Orchis falcata* Thunb.

65.   The TWO is invited to consider the proposal to delete the UPOV Codes ASCOC, ASNEO, NEOFI and NEOFI_FAL, as set out in paragraph 64 of this document.

UPOV codes for Haworthia species

Background

66.   The Office of the Union was informed of the reclassification of certain *Haworthia* species *to Haworthiopsis* species.

67.   The current entries in the GENIE database for certain *Haworthia species*, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
HAWOR_FAS	*Haworthia fasciata* (Willd.) Haw.	*Haworthiopsis fasciata* (Willd.) G. D. Rowley (synonym: *Haworthia fasciata* (Willd.) Haw.)	zebra haworthia	15
HAWOR_LFA	*Haworthia limifolia x Haworthia fasciata*	n.a.	n.a.	1
HAWOR_LIM	*Haworthia limifolia* Marloth	*Haworthiopsis limifolia* (Marloth) G. D. Rowley (synonym: *Haworthia limifolia* Marloth)	n.a.	3
HAWOR_MAR	*Haworthia margaritifera* (L.) Haw.	Synonym of *Haworthia maxima* (Haw.) Duval	n.a.	1

Proposal

68.   In accordance with the reclassification of certain *Haworthia* species *to Haworthiopsis* species, the TWO might wish to consider deletion of the UPOV codes HAWOR_FAS, HAWOR_LIM, HAWOR_LFA and HAWOR_MAR. *Haworthia fasciata* would be covered as synonym of *Haworthiopsis fasciata* under a new UPOV code HAWOT_FAS. *Haworthia limifolia* would be covered as synonym of *Haworthiopsis fasciata* under a new UPOV code HAWOT_LIM. *Haworthia limifolia x Haworthia fasciata* would be covered as synonym of hybrids between *Haworthiopsis limifolia* and *Haworthia fasciata* under a new UPOV code HAWOT_LFA. Those new codes above would be created by the office of the union. *Haworthia margaritifera* would be covered as synonym of *Haworthia maxima* under the UPOV code HAWOR_MAX, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
HAWOR_FAS	*Haworthia fasciata* (Willd.) Haw.	n.a.	HAWOT_FAS	*Haworthiopsis fasciata* (Willd.) G. D. Rowley	*Apicra fasciata* Willd.; *Haworthia fasciata* (Willd.) Haw.; *Haworthia fasciata f. major (*Salm-Dyck) Poelln*.; Haworthia fasciata f. ovato-lanceolata* Poelln.; *Haworthia fasciata f. sparsa* Poelln.; *Haworthia fasciata f. subconfluens* (Poelln.) Poelln.; *Haworthia fasciata f. vanstaedensis* Poelln.; *Haworthia fasciata f. variabilis* Poelln.; *Haworthia fasciata var. subconfluens* Poelln.
HAWOR_LFA	*Haworthia limifolia x Haworthia fasciata*	n.a.	HAWOT_LFA	hybrids between *Haworthiopsis limifolia* (Marloth) G. D. Rowley *and Haworthiopsis fasciata* (Willd.) Haw.	*Haworthia limifolia x Haworthia fasciata*
HAWOR_LIM	*Haworthia limifolia* Marloth	n.a.	HAWOT_LIM	*Haworthiopsis limifolia* (Marloth) G. D. Rowley	*Haworthia limifolia* Marloth
HAWOR_MAX	*Haworthia maxima (*Haw.) Duval	n.a.	HAWOR_MAX	*Haworthia maxima* (Haw.) Duval	*Haworthia margaritifera (L.) Haw.; Aloe pumila var. margaritifera* L.*; Aloe semimargaritifera* Salm-Dyck; *Haworthia margaritifera var. semimargaritifera* (Salm-Dyck) Baker; *Haworthia papillosa var. semipapillosa* Haw.; *Haworthia semiglabrata* Haw.
HAWOR_MAR	*Haworthia margaritifera* (L.) Haw.	n.a.			

69.   The TWO is invited to consider the proposal to delete the UPOV Codes HAWOR_FAS, HAWOR_LIM, HAWOR_LFA and HAWOR_MAR, as set out in paragraph 68 of this document.

UPOV codes for Mahonia and its species

Background

70.   The Office of the Union was informed of reclassification of *Mahonia* to *Berberis.*

71.   The current entries in the GENIE database for *Mahonia* and its species, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
MAHON	*Mahonia* Nutt.	*Berberis* L.	Mahonia	13
MAHON_ACA	*Mahonia acanthifolia* G. Don	*Berberis napaulensis* (DC.) Spreng. (synonym: *Mahonia acanthifolia* G. Don)	Mahonia	0
MAHON_AQU	*Mahonia aquifolium* (Pursh) Nutt.	*Berberis aquifolium* Pursh (synonym: *Mahonia aquifolium* (Pursh) Nutt.)	Oregon Grape	6
MAHON_BEA	*Mahonia bealei* (Fortune) Carrière	*Berberis bealei* Fortune (synonym: *Mahonia bealei* (Fortune) Carrière)	Mahonia	0
MAHON_JAP	*Mahonia japonica* (Thunb.) DC.	*Berberis japonica* (Thunb.) Spreng. (synonym: *Mahonia japonica* (Thunb.) DC.)	Mahonia	0
MAHON_LOM	*Mahonia lomariifolia* Takeda	*Berberis oiwakensis* (Hayata) Laferr. (synonym: *Mahonia lomariifolia* Takeda)	Mahonia	0
MAHON_PUM	*Mahonia pumila* (Greene) Fedde	*Berberis pumila* Greene (synonym: *Mahonia pumila* (Greene) Fedde)	Mahonia	0
MAHON_REP	*Mahonia repens* (Lindl.) G. Don	*Berberis repens* Lindl. (synonym: *Mahonia repens* (Lindl.) G. Don)	Mahonia	3

Proposal

72.   In accordance with the reclassification of *Mahonia* to *Berberis*, the TWO might wish to consider deletion of the UPOV codes MAHON, MAHON_ACA, MAHON_AQU, MAHON_BEA, MAHON_JAP, MAHON_LOM, MAHON_PUM and MAHON_REP. *Mahonia* would be covered as synonym of *Berberis* under UPOV code BERBE. *Mahonia acanthifolia* would be covered as a synonym of *Berberis napaulensis* under a new UPOV code BERBE_ACA. *Mahonia aquifolium* would be covered as a synonym of *Berberis aquifolium* under a new UPOV code BERBE_AQU. *Mahonia bealei* would be covered as a synonym of *Berberis bealei* under a new UPOV code BERBE_BEA. *Mahonia japonica* would be covered as a synonym of *Berberis japonica* under a new UPOV code BERBE_JAP. *Mahonia lomariifolia* would be covered as a synonym of *Berberis oiwakensis* under a new UPOV code BERBE_LOM. *Mahonia pumila* would be covered as a synonym of *Berberis pumila* under a new UPOV code BERBE_PUM. *Mahonia repens* would be covered as a synonym of *Berberis repens* under a new UPOV code BERBE_REP. Above new codes would be created by the office of the union, as follows:

Current			Proposal		
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
BERBE	*Berberis* L.	n.a.	BERBE	*Berberis* L.	*Mahonia* Nutt.; *Odostemon* Raf.
MAHON	*Mahonia* Nutt.	n.a.			
MAHON_ACA	*Mahonia acanthifolia* G. Don	n.a.	BERBE _ACA	*Berberis napaulensis* (DC.) Spreng.	*Mahonia acanthifolia* G. Don
MAHON_AQU	*Mahonia aquifolium* (Pursh) Nutt.	n.a.	BERBE _AQU	*Berberis aquifolium* Pursh	*Mahonia aquifolium* (Pursh) Nutt.; *Berberis diversifolia* (Sweet) Steud.; *Mahonia aquifolium subsp. aquifolium* (Pursh) Nutt.; *Mahonia diversifolia* Sweet
MAHON_BEA	*Mahonia bealei* (Fortune) Carrière	*Mahonia bealei* (Fort.) Carr	BERBE _BEA	*Berberis bealei* Fortune	*Mahonia bealei* (Fortune) Carrière; *Berberis japonica var. bealei* (Fortune) Skeels;
MAHON_JAP	*Mahonia japonica* (Thunb.) DC.	n.a.	BERBE _JAP	*Berberis japonica* (Thunb.) Spreng.	*Mahonia japonica* (Thunb.) DC.; *Ilex japonica* Thunb.

	Current			Proposal	
MAHON_LOM	*Mahonia lomariifolia* Takeda	n.a.	BERBE _LOM	*Berberis oiwakensis* (Hayata) Laferr.	*Mahonia lomariifolia* Takeda; *Berberis lomariifolia* (Takeda) Laferr.; *Mahonia oiwakensis* Hayata
MAHON_PUM	*Mahonia pumila* (Greene) Fedde	n.a.	BERBE _PUM	*Berberis pumila* Greene	*Mahonia pumila* (Greene) Fedde
MAHON_REP	*Mahonia repens* (Lindl.) G. Don	n.a.	BERBE _REP	*Berberis repens* Lindl.	*Mahonia repens* (Lindl.) G. Don; *Berberis sonnei* (Abrams) McMinn; *Mahonia repens var. repens* (Lindl.) G. Don; *Mahonia repens var. rotundifolia* (May) Fedde ; *Mahonia sonnei* Abrams

73. The TWO is invited to consider the proposal to delete the UPOV Codes MAHON, MAHON_ACA, MAHON_AQU, MAHON_BEA, MAHON_JAP, MAHON_LOM, MAHON_PUM and MAHON_REP, as set out in paragraph 72 of this document.

UPOV codes for Homalocladium and its species

Background

74.   The Office of the Union was informed of reclassification of *Homalocladium* to *Muehlenbeckia.*

75.   The current entries in the GENIE database for *Homalocladium* and its species, the taxa in GRIN and the numbers of entries in the PLUTO database, are as follows:

UPOV code	Principal botanical name in GENIE	Botanical name(s) in GRIN	Common name(s) in GENIE	Numbers of Entries in PLUTO
HOMLC	*Homalocladium* (F. v. Muell.) L.H. Bailey	*Muehlenbeckia* Meisn. *(synonym: Homalocladium* (F. Muell.) L. H. Bailey*)*		0
HOMLC_PLA	*Homalocladium platycladum* (F. Muell.) L. H. Bailey	*Muehlenbeckia platyclada* (F. Muell.) Meisn. *(synonym: Homalocladium platycladum* (F. Muell.) L. H. Bailey*)*	Centipede-plant; Ribbonbush; Tapewormplant	1

Proposal

76.   In accordance with the reclassification of *Homalocladium* to *Muehlenbeckia*, the TWO might wish to consider deletion of the UPOV codes HOMLC and HOMLC_PLA. *Homalocladium* would be covered as a synonym of *Muehlenbeckia* under UPOV code MUEHL. *Homalocladium platycladum* would be covered as a synonym of *Muehlenbeckia platyclada* under a new UPOV code MUEHL_PLA which the office of the union would create, as follows:

	Current			Proposal	
UPOV code	Principal botanical name	Other botanical name(s)	UPOV code	Principal botanical name	Other botanical name(s)
MUEHL	*Muehlenbeckia* Meisn.	n.a.	MUEHL	*Muehlenbeckia* Meisn.	*Homalocladium* (F. Muell.) L. H. Bailey
HOMLC	*Homalocladium* (F. v. Muell.) L.H. Bailey	n.a.			
HOMLC_PLA	*Homalocladium platycladum* (F. Muell.) L. H. Bailey	n.a.	MUEHL_PLA	*Muehlenbeckia platyclada* (F. Muell.) Meisn.	*Homalocladium platycladum* (F. Muell.) L. H. Bailey; *Polygonum platycladum* F. Muell.

77. The TWO is invited to consider the proposal to delete the UPOV Codes HOMLC and HOMLC_PLA, as set out in paragraph 76 of this document.

TWP checking

78.   In accordance with the procedure set out in Section 3.3 of the Guide to the UPOV Code System, the Office of the Union prepares tables of UPOV code additions and amendments, for checking by the relevant authorities, for each of the Technical Working Party (TWP) sessions in 2019.

79.   The Excel files provided as Annex II, part A "UPOV codes amendments to be checked", part B "New UPOV codes or new information", and part C "Crop type(s) of UPOV codes used in the PLUTO database for the first time" (available on the TWO/51, TWV/53, TWF/50, TWA/48 and TWC/37 website in excel file only) to this document provide information on new UPOV codes added to the GENIE database and UPOV code amendments that have not yet been checked by the relevant authorities, as follows:

"Part A, 'UPOV codes amendments to be checked':

for each change, the old entry is highlighted in the row in red and the changes to the entry are found in the line immediately below that highlighted row (they have the same number in the first column). All Technical Working Parties and Authority(ies) are requested to check the amendments whether the amendments follow UPOV code system, reflects authentic botanical names and/or common names (see "Guide to the UPOV Code System" http://www.upov.int/export/sites/upov/genie/en/pdf/upov_code_system.pdf).

"Part B 'New UPOV codes or new information':

contains the new UPOV codes or new information added for existing UPOV codes. Highlighting in grey indicates that the UPOV code or name has not been changed. In this spreadsheet, the column headers highlighted in yellow indicate the relevant Technical Working Party (TWP) and Authority(ies) of interest which are requested to check the correctness of the information."

"Part C 'Crop type(s) of UPOV codes used in the PLUTO database for the first time':

contains the new crop type allocation or amended allocation for new and existing UPOV codes. In this spreadsheet, the column headers highlighted in yellow indicate the relevant crop type(s) which are requested to check the correctness of the information."

80.   The TWO, TWV, TWF and TWA are invited to:

(a)   check the amendments to UPOV codes, the new UPOV codes or new information added for existing UPOV codes, and the UPOV codes used in the PLUTO database for the first time, which are provided in Annex II to this document; and

(b)   submit comments on Annex II, part A "UPOV codes amendments to be checked", part B "New UPOV codes or new information", and part C "Crop type(s) of UPOV codes used in the PLUTO database for the first time" to the Office of the Union by December 31, 2019.

PLUTO DATABASE

Program for improvements to the PLUTO database

81.   The CAJ, at its sixty-eighth session, held on October 21, 2013, considered document CAJ/68/6 "UPOV information databases" and approved the amendments to the Program for improvements to the PLUTO database ("Program") as set out in document CAJ/68/6, Annex II, subject to certain further amendments agreed at that session (see document CAJ/68/10 "Report on the Conclusions", paragraphs 23 to 26).

82.   The Program reflecting amendments approved at previous sessions is available in document TC/50/6 "UPOV Information Databases", Annex I.

83.   Annex I to this document provides a summary of the contributions to the PLUTO database from 2015 to 2018 and the current situation of members of the Union on data contribution.

> *84. The TWPs are invited to note the summary of contributions to the PLUTO database from 2015 to 2018 and the current situation of members of the Union on data contribution, as presented in the Annex I to this document.*

Search tools

85.   Matters concerning the possible development of a similarity search tool for variety denomination purposes are reported in document TWP/3/6 "Variety Denominations".

Content of the PLUTO Database

86.   The background of this matter is provided in document TWP/2/4 Rev. "UPOV information databases", paragraph 74 to75.

87.   The Working Group on Variety Denominations (WG-DEN), at its fifth meeting, held in Geneva, on October 30, 2018, agreed to propose:

        (a)   to accept accents and special characters in denominations in the PLUTO database while noting that the denomination search tool on the PLUTO database would only use the character set ASCII representation, as defined in ISO Standard 646;

        (b)   to revise the "Program for Improvements to the Plant Variety Database", Section 3.1.3 in order to change the acceptable character set to ISO/IEC Standard 8859 1: 1998;

        (c)   to invite members of the Union to check whether they have relevant variety data that is no longer included in the PLUTO database but was submitted to the PLUTO database previously;

        (d)   that the Office of the Union should explore possibilities to introduce a unique identifier for variety records in the PLUTO database in order that new data submissions would add to the existing data rather than replacing it;

        (e)   that additional data should not be included in PLUTO but accessible via a search platform for independent databases; and

        (f)   that the Office of the Union to issue a circular to invite members of the Union to propose data that they would wish to include in the PLUTO database or make accessible via a search platform for independent databases.

88.   The CAJ, at its seventy-fifth session, held in Geneva on October 31, 2018, noted the oral report on developments on this matter at the fifth meeting of the WG-DEN made at the seventy-fifth session of the CAJ, as set out in paragraph 87 of this document (see document CAJ/75/14 "Report", paragraph 41).

89.   The proposals by the WG-DEN at its fifth session concerning possible expansion of the content of the PLUTO database will be considered by the CAJ, at its seventy-sixth session, to be held in Geneva on October 30, 2019.

> *90. The TWPs are invited to note:*
>
> *(a) developments concerning possible expansion of the content of the PLUTO Database, as set out in paragraph 87 of this document; and*
>
> *(b) that the proposals by the WG-DEN at its fifth session concerning possible expansion of the content of the PLUTO database will be considered by the CAJ, at its seventy-sixth session, to be held in*

Geneva on October 30, 2019, as set out in paragraph 89 of this document.

[Annexes follow]

REPORT ON DATA CONTRIBUTED TO THE PLANT VARIETY DATABASE BY MEMBERS OF THE
UNION AND OTHER CONTRIBUTORS AND ASSISTANCE FOR DATA CONTRIBUTION

Contributor	Number of applications for Plant Breeders' Rights in 2017	Number of new data submissions to the Plant Variety Database in 2015	Number of new data submissions to the Plant Variety Database in 2016	Number of new data submissions to the Plant Variety Database in 2017	Number of new data submissions to the Plant Variety Database in 2018	Situation at January 24, 2018
African Intellectual Property Organization	4	0	0	0	0	A reminder e-mail with instructions for contribution sent on Sep, 2018, following receipt of incomplete data.
Albania	0 (2016)	1	1	0	0	Latest data under preparation: Awaiting reply to e-mail of Jan, 2019, inviting data.
Argentina	299	0	1	0	0	A reminder for latest data contribution sent in January, 2018.
Australia	343	5	7	5	22	
*Austria	0	3	4	4	5	
Azerbaijan	19 (2014)	0	0	0	0	Awaiting reply to e-mail of Sep, 2018, inviting data.
Belarus	33	0	1	0	0	Awaiting reply to e-mail of Nov, 2018, inviting data.
*Belgium	3	6	5	3	5	
Bolivia (Plurinational State of)	13	0	1	1	0	Awaiting reply to e-mail of Jan, 2019, inviting data.
Bosnia and Herzegovina	0	n.a.	n.a.	0	0	Data under preparation. Awaiting reply to e-mail of Jan, 2019, inviting data.
Brazil	339	3	0	3	5	
*Bulgaria	48	12	6	3	4	
Canada	310	7	11	11	10	
Chile	115	4	6	5	7	
China	4,465	2	1	1	0	Awaiting reply to e-mail of Jan, 2019, inviting data.
Colombia	124	0	0	2	0	Awaiting reply to e-mail of Jan, 2019, inviting data.
Costa Rica	5	1	3	2	1	
*Croatia	13	3	2	2	2	
*Czech Republic	57	3	6	9	6	
*Denmark	7	12	11	10	7	
Dominican Republic	5 (2009)	0	0	0	0	Awaiting reply to e-mail of Oct, 2018, inviting data.
Ecuador	81	0	0	1	1	Awaiting reply to e-mail of Oct, 2018, inviting data.
*Estonia	10	9	3	3	9	
*European Union	3,422	10	13	7	11	
*Finland	14	2	2	2	3	

( )   Parenthesis indicates that data are currently being processed.
*   Data provided via the CPVO.

Contributor	Number of applications for Plant Breeders' Rights in 2017	Number of new data submissions to the Plant Variety Database in 2015	Number of new data submissions to the Plant Variety Database in 2016	Number of new data submissions to the Plant Variety Database in 2017	Number of new data submissions to the Plant Variety Database in 2018	Situation at January 24, 2018
*France	158	13	11	8	8	
Georgia	17	0	2	0	2	
*Germany	39	11	12	8	9	
*Hungary	16	16	19	14	11	
*Iceland	0 (2012)	0	0	0	0	
*Ireland	1	2	2	1	2	
Israel	53	1	1	1	0	Data submitted in Jan, 2019.
*Italy	5	8	6	6	3	
Japan	1,019	4	1	2	3	
Jordan	3 (2016)	0	1	0	0	Awaiting reply to e-mail of May, 2018, inviting data.
Kenya	71	0	1	0	0	Awaiting reply to e-mail of Jan, 2019, inviting data.
Kyrgyzstan	1	0	0	0	0	Latest data under preparation. Awaiting reply to e-mail of Sep, 2018.
*Latvia	1	1	1	2	2	
*Lithuania	18	3	4	4	3	
Mexico	265	1	3	3	4	
Montenegro	n.a.	0	0	0	0	Awaiting reply to e-mail of Sep, 2018, inviting data.
Morocco	101	2	0	0	0	Awaiting reply to e-mail of Aug, 2018, inviting data.
*Netherlands	763	10	11	8	9	
New Zealand	135	6	5	6	6	
Nicaragua	22	0	0	0	0	Participated in the training course in 2015 and planned to submit data by end of November 2015. Awaiting reply to e-mail of Sep, 2018, inviting data.
*Norway	19	4	3	4	7	
Oman	0 (2015)	0	0	2	0	Awaiting reply to e-mail of Jan, 2019, inviting data.
Panama	3	0	1	1	0	
Paraguay	62 (2016)	1	1	0	1	
Peru	38	0	0	1	1	
*Poland	110	3	5	7	3	
*Portugal	0	0	2	1	2	
Republic of Korea	748	0	1	0	1	
Republic of Moldova	30	3	3	1	2	
*Romania	38	4	4	4	4	
Russian Federation	807	5	5	5	4	
Serbia	66	3	4	2	4	
Singapore	5	0	0	0	0	No data submitted. Awaiting reply to e-mail of Sep, 2018, inviting data.

Contributor	Number of applications for Plant Breeders' Rights in 2017	Number of new data submissions to the Plant Variety Database in 2015	Number of new data submissions to the Plant Variety Database in 2016	Number of new data submissions to the Plant Variety Database in 2017	Number of new data submissions to the Plant Variety Database in 2018	Situation at January 24, 2018
*Slovakia	8	4	5	6	4	
*Slovenia	0	5	5	3	4	
South Africa	268	0	1	2	2	
*Spain	40 (2016)	5	5	5	4	
*Sweden	4	11	12	11	9	
*Switzerland	75	6	5	6	3	
The former Yugoslav Republic of Macedonia	n.a.	0	0	0	0	Participated in the training course in 2014 and planned to submit data upon receipt of applications. Awaiting reply to e-mail of Sep, 2018, inviting data.
Trinidad and Tobago	0 (2016)	0	0	0	0	Participated in the training course in 2014. Awaiting reply to e-mail of Sep, 2018, inviting data.
Tunisia	62 (2016)	0	0	0	0	Awaiting reply to e-mail of Aug, 2018, inviting data.
*Turkey	216	1	3	0	2	
Ukraine	1,345	0	0	0	3	
*United Kingdom	183	11	13	10	12	
United Republic of Tanzania	40	0	0	0	0	Awaiting reply to e-mail of Sep, 2018, inviting data.
United States of America	1,557	17	16	12	12	
Uruguay	54	1	0	0	0	With regard to latest data, clarifications needed for uploading in PLUTO. Awaiting reply to e-mail of January, 2019, inviting data.
Uzbekistan	36	0	0	0	1	
Viet Nam	266	0	0	0	0	Data under preparation. Awaiting reply to email of Sep, 2018, requesting data submission.
OECD	-	0	2	2	2	
Number of UPOV members that contributed to the PLUTO database		44	48	45	48	
Percentage of UPOV members that contributed to the PLUTO database		62%	67%	61%	64%	

[Annex II follows]

ANNEX II

[See Excel files]

[End of Annex II and of document]