



## **PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS**

*Guzmania* Ruiz et Pav.

**GUZMANIA**

UPOV Species Code: GUZMA

**Adopted on 27/10/2010**

**Entry into force on 27/10/2010**

## **I SUBJECT OF THE PROTOCOL**

The protocol describes the technical procedures to be followed in order to meet the Council Regulation 2100/94 on Community Plant Variety Rights. The technical procedures have been agreed by the Administrative Council and are based on general UPOV document TG/1/3 and UPOV Guideline TG/182/3 dated 4 April 2001 for the conduct of tests for Distinctness, Uniformity and Stability and conclusions of the ornamental meeting of 11 June 2010. This protocol applies to all varieties of *Guzmania Ruiz et Pav.*.

## **II SUBMISSION OF SEED AND OTHER PLANT MATERIAL**

### 1. The Community Plant Variety Office (CPVO) is responsible for informing the applicant of:

- the closing date for the receipt of plant material;
- the minimum amount and quality of plant material required;
- the examination office to which material is to be sent.

The applicant is responsible for ensuring compliance with any customs and plant health requirements.

### 2. Final dates for receipt of documentation and material by the Examination Office

The final dates for receipt of requests, technical questionnaires and the final date or submission period for plant material will be decided by the CPVO and each Examination Office chosen.

The Examination Office is responsible for immediately acknowledging the receipt of requests for testing, and technical questionnaires. If no or unsatisfactory plant material is submitted the CPVO should be informed as soon as possible.

### 3. Plant material requirements

Information with respect to closing dates and submission requirements of plant material for technical examination of varieties can be found on the CPVO website ([www.cpvo.europa.eu](http://www.cpvo.europa.eu)) and in the special Issue S2 of the Official Gazette of the Office published yearly during the month of September.

Quality of seed: .....The plant material supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease, especially virus, as laid down in Council Directive 2000/29/EC and its amendments, or organisms impairing quality as indicated in Council Directive 98/56/EEC and Commission Directive 93/49 and their amendments.

The plant material must not have undergone any treatment unless the CPVO and the examination office allow or request such treatment. If it has been treated, full details of the treatment must be given.

Labelling of sample: .....- Species  
- File number of the application allocated by the CPVO  
- Breeder's reference  
- Examination reference (if known)  
- Name of applicant  
- The phrase "On request of CPVO"

### III CONDUCT OF TESTS

#### 1. Variety collection

A variety collection will be maintained for the purpose of establishing distinctness of the candidate varieties in test. A variety collection may contain both living material and descriptive information. A variety will be included in a variety collection only if plant material is available to make a technical examination.

Pursuant to Article 7 of Council Regulation (EC) No. 2100/94, the basis for a collection should be the following:

- varieties listed or protected at the EU level or at least in one of the EEA Member States;
- varieties protected in other UPOV Member States;
- any other variety in common knowledge.

It is the responsibility of Examination Office to keep the variety collection up to date.

#### 2. Material to be examined

Candidate varieties will be directly compared with other candidates for Community plant variety rights tested at the same Examination Office, and with appropriate varieties in the reference collection. When necessary an Examination Office may also include other candidates and varieties.

#### 3. Characteristics to be used

The characteristics to be used in DUS tests and preparation of descriptions shall be those referred to in the Annex 1. All the characteristics shall be used, providing that observation of a characteristic is not rendered impossible by the expression of any other characteristic, or the expression of a characteristic is prevented by the environmental conditions under which the test is conducted. In the latter case, the CPVO should be informed. In addition, the existence of some other regulation e.g. plant health, may make the observation of the characteristic impossible.

The Administrative Council empowers the President, in accordance with Article 23 of Commission Regulation (EC) N° 874/2009, to insert additional characteristics and their expressions in respect of a variety.

#### 4. Grouping of varieties

The varieties and candidates to be compared will be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states of expression are fairly evenly distributed throughout the collection. In the case of continuous grouping characteristics overlapping states of expression between adjacent groups is required to reduce the risks of incorrect allocation of candidates to groups. The characters used for grouping are the following:

- a) Plant: height (inflorescence excluded) (characteristic 1)
- b) Inflorescence: position compared to position of leaves (characteristic 14)
- c) Inflorescence: number of flowers per bract (characteristic 19)

d) Bract: colour of upper side (characteristic 24) with the following groups:

- Group 1: white
- Group 2: green
- Group 3: yellow
- Group 4: orange
- Group 5: orange red
- Group 6: purple pink
- Group 7: red
- Group 8: red purple
- Group 9: purple

5. Trial designs and growing conditions

The minimum duration of tests will normally be one growing cycle if the results on distinctness and uniformity are conclusive. Tests will be carried out under conditions ensuring normal growth. The size of the plots will be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period.

The test design is as follows:

As a minimum, each test should include a total of 45 plants for seed-propagated varieties or 20 plants for vegetatively propagated varieties. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

All observations determined by measurement or counting should be made on 10 plants or parts taken from each of 10 plants.

All observations should be made at the time of full flowering.

All observations on the leaf should be made on the largest leaves of the middle third of the rosette. All observations on the bract should be made on the largest bract.

The test should normally be conducted at one place.

The tests should be carried out under conditions ensuring normal growth.

6. Special tests

In accordance with Article 83(3) of Council Regulation (EC) No. 2100/94 an applicant may claim either in the Technical Questionnaire or during the test that a candidate has a characteristic which would be helpful in establishing distinctness. If such a claim is made and is supported by reliable technical data, a special test may be undertaken providing that a technically acceptable test procedure can be devised.

Special tests will be undertaken, with the agreement of the President of CPVO, where distinctness is unlikely to be shown using the characters listed in the protocol.

7. Standards for decisions

a) **Distinctness**

A candidate variety will be considered to be distinct if it meets the requirements of Article 7 of Council Regulation (EC) No. 2100/94.

b) **Uniformity**

For the assessment of uniformity of vegetatively propagated varieties a population standard of 1% with an acceptance probability of at least 95% should be applied. The candidate will be considered to be sufficiently uniform if the number of off-types does not exceed 1 in 20 plants examined.

For the assessment of uniformity of seed propagated open pollinated and hybrid varieties, relative uniformity standards should be applied.

c) **Stability**

A candidate will be considered to be sufficiently stable when there is no evidence to indicate that it lacks uniformity.

#### **IV REPORTING OF RESULTS**

After each growing cycle the results will be summarised and reported to the CPVO in the form of a UPOV model interim report in which any problems will be indicated under the headings distinctness, uniformity and stability. Candidates may meet the DUS standards after one growing cycle but in some cases two or more growing cycles may be required. When tests are completed the results will be sent by the Examination Office to the CPVO in the form of a UPOV model final report.

If it is considered that the candidate complies with the DUS standards, the final report will be accompanied by a variety description in the format recommended by UPOV. If not the reasons for failure and a summary of the test results will be included with the final report.

The CPVO must receive interim reports and final reports by the date agreed between the CPVO and the examination office.

Interim reports and final examination reports shall be signed by the responsible member of the staff of the Examination Office and shall expressly acknowledge the exclusive rights of disposal of CPVO.

#### **V LIAISON WITH THE APPLICANT**

If problems arise during the course of the test the CPVO should be informed immediately so that the information can be passed on to the applicant. Subject to prior agreement, the applicant may be directly informed at the same time as the CPVO particularly if a visit to the trial is advisable.

The interim report and final report shall be sent by the Examination Office to the CPVO.

## **VI ENTRY INTO FORCE**

The present protocol enters into force on **27/10/2010**. Any ongoing DUS examination of candidate varieties started before the aforesaid date will not be affected by the approval of the revised Technical Protocol. Technical examinations of candidate varieties are carried out according to the TP in force when the DUS test starts. The starting date of a DUS examination is considered to be the due date for submitting of plant material for the first test period.

In cases where the Office requests to take-over a DUS report for which the technical examination has either been finalized or which is in the process to be carried out at the moment of this request, such report can only be accepted if the technical examination has been carried out according to the CPVO TP which was in force at the moment when the technical examination started.

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## ANNEXES TO FOLLOW

### ANNEX I

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#### Legend:

- (+) See explanations on the table of characteristics
- (a)-(e) See explanations on the table of characteristics

#### Types of expression of characteristics:

- QL Qualitative characteristic
- QN Quantitative characteristic
- PQ Pseudo-qualitative characteristic

### ANNEX II

Technical Questionnaire

## ANNEX I

TABLE OF CHARACTERISTICS TO BE USED IN DUS-TEST AND PREPARATION OF DESCRIPTIONS

CPVO N°	UPOV N°	Characteristics	Examples	Note
1. (+)	1. (+)	<b>Plant: height (inflorescence excluded)</b>		
		very short	Mandarine	1
		short	Pax	3
		medium	Torch	5
		tall	Magenta	7
		very tall	<i>Guzmania bismarckii</i>	9
2.	2.	<b>Plant: diameter</b>		
		very small	<i>Guzmania angustifolia</i>	1
		small	Empire	3
		medium	Pax	5
		large	Magenta, Rana	7
		very large	<i>Guzmania bismarckii</i>	9
3.	3.	<b>Plant: number of leaves</b>		
		very few	<i>Guzmania calamifolia</i>	1
		few	Decora	3
		medium	Rana	5
		many	Magenta	7
		very many		9
4.	4.	<b>Leaf sheath: length</b>		
		short	Cherry	3
		medium	Rana	5
		long	Magenta	7



CPVO N°	UPOV N°	Characteristics	Examples	Note
5.	5.	<b>Leaf sheath: width</b>		
		narrow	Papilio	3
		medium	Cherry	5
		broad	Fleur d'Anjou	7
6.	6.	<b>Leaf blade: length</b>		
		very short	Rondo	1
		short	Pax	3
		medium	Torch	5
		long	Lemonade	7
		very long	<i>Guzmania bismarckii</i>	9
7.	7.	<b>Leaf blade: width</b>		
		very narrow	<i>Guzmania angustifolia</i>	1
		narrow	Empire	3
		medium	Luna	5
		broad	<i>Guzmania conifera</i>	7
		very broad	<i>Guzmania bismarckii</i>	9
8.	8.	<b>Leaf blade: shape of apex</b>		
		narrow acuminate	<i>Guzmania calamifolia</i>	1
		medium acuminate	Magenta, Rana	2
		broad acuminate	<i>Guzmania conifera</i>	3
		narrow acute	<i>Guzmania dissitiflora</i>	4
		medium acute	Empire, Luna	5
		broad acute	Torch	6

CPVO N°	UPOV N°	Characteristics	Examples	Note
9.	9.	<b>Leaf blade: main colour of upper side</b>		
		yellowish white	<i>Guzmania musaica</i>	1
		light green	Rondo	2
		medium green	Torch	3
		dark green	Ostara	4
		grey green	<i>Guzmania conifera</i>	5
		red purple	<i>Guzmania erythrolepis</i>	6
		purple	<i>Guzmania lindenii</i> , <i>Guzmania vittata</i>	7
	red brown	<i>Guzmania remyi</i>	8	
10.	10.	<b>Leaf blade: secondary colour of upper side</b>		
		absent	Rondo	1
	present	<i>Guzmania musaica</i> , <i>Guzmania sanguinea</i>	9	
11.	11.	<b>Leaf blade: main colour of lower side</b>		
		yellowish white		1
		light green	<i>Guzmania musaica</i>	2
		medium green	Torch	3
		dark green	Ostara	4
		grey green	<i>Guzmania conifera</i>	5
		red purple		6
		purple		7
	red brown	<i>Guzmania remyi</i>	8	
12.	12.	<b>Leaf blade: anthocyanin coloration of lower side</b>		
		absent	Rondo	1
	present	Decora, Ostara	9	

CPVO N°	UPOV N°	Characteristics	Examples	Note
13.	13.	<b>Leaf blade: distribution of anthocyanin coloration of lower side</b>		
		as a flush	Magenta	1
		in stripes	<i>Guzmania dissitifolia</i>	9
14.	14.	<b>Inflorescence: position compared to position of leaves</b>		
		below	<i>Guzmania sanguinea</i> , <i>Guzmania erythrolepis</i>	1
		same level	Mandarine	2
		above	Torch	3
15. (+)	15. (+)	<b>Inflorescence: length</b>		
		very short	Rondo	1
		short	Empire	3
		medium	Continental	5
		tall	Magenta	7
		very tall	Tiffany	9
16. (+)	16. (+)	<b>Inflorescence: length of flowering part</b>		
		short	Rondo	3
		medium	Pax	5
		long	Magenta	7
		very long	Tiffany	9
17. (+)	17. (+)	<b>Inflorescence: diameter of flowering part</b>		
		very small	<i>Guzmania remyi</i>	1
		small	<i>Guzmania dissitiflora</i>	3
		medium	Pax	5
		large	Ruby	7
		very large	Tiffay	9

CPVO N°	UPOV N°	Characteristics	Examples	Note
18. (+)	18. (+)	<b>Inflorescence: number of bracts</b>		
		very few	<i>Guzmania eduardii</i>	1
		few	Cherry, Rana	3
		medium	Magenta	5
		many	Pax, Ultra	7
		very many	Torch	9
19.	19.	<b>Inflorescence: number of flower per bract</b>		
		one	Torch	1
		more than one	Cherry, Rana	2
20.	20.	<b>Inflorescence: varieties with more than one flower per bract: total number of flowers per bract</b>		
		few	Papilio	3
		medium	Luna, Rana	5
		many	Continental	7
21.	21.	<b>Bract: length</b>		
		very short	<i>Guzmania dissitiflora</i> , <i>Guzmania remyi</i>	1
		short	Rondo, Torch	3
		medium	Papilio, Pax	5
		long	Magenta, Rana	7
		very long	Tifany	9
22.	22.	<b>Bract: width</b>		
		very narrow	<i>Guzmania barbiae</i>	1
		narrow	Papilio	3
		medium	Cherry, Ultra	5
		broad	Lemonade, Tifany	7
		very broad	Fleur d'Anjou	9

CPVO N°	UPOV N°	Characteristics	Examples	Note
23.	23.	<b>Bract: width of tip</b>		
		narrow	Ruby	1
		medium	Cherry, Magenta	2
		broad	Torch	3
24.	24.	<b>Bract: colour of upper side</b>		
		RHS Colour Chart (indicate reference number)		
		.....		
25.	25.	<b>Bract: colour of lower side</b>		
		RHS Colour Chart (indicate reference number)		
		.....		
26.	26.	<b>Flower: length of prophyll</b>		
		short	Marlebeca	3
		medium	Continental, Decora	5
		long	Cherry, Rana	7
27.	27.	<b>Flower: width of prophyll</b>		
		narrow	Papilio	3
		medium	Rana	5
		broad	Continental	7
28.	28.	<b>Flower: colour of prophyll</b>		
		RHS Colour Chart (indicate reference number)		
		.....		
29.	29.	<b>Flower: colour of calyx</b>		
		RHS Colour Chart (indicate reference number)		
		.....		

CPVO N°	UPOV N°	Characteristics	Examples	Note
30.	30.	<b>Flower: colour of corolla</b>  RHS Colour Chart (indicate reference number)  .....		
31.	31.	<b>Flower: colour of ovary</b>		
		white	Ultra	1
		light yellow	Mignon	2
		light green	Pax, Torch	3
32.	32.	<b>Flower: colour of style</b>		
		white	Mignon	1
		light yellow	Pax, Torch	2
		medium yellow	<i>Guzmania fuspica</i> , <i>Guzmania jarmiloi</i>	3
		yellow green	<i>Guzmania dissitiflora</i>	4
33.	33.	<b>Flower: colour of stigma</b>		
		white	Pax, Ultra	1
		light yellow	Guayabo	2
		medium yellow	Torch	3
		yellow green	Montezuma	4

## EXPLANATIONS AND METHODS

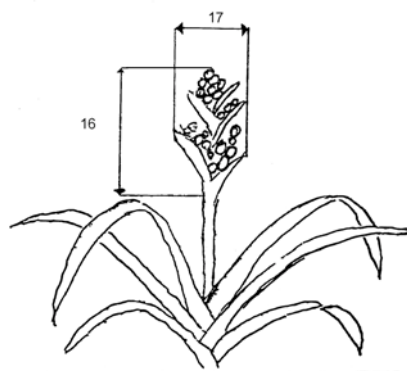
Ad. 1: Plant: height (inflorescence excluded)



Ad. 15: Inflorescence: length



Ad. 16: Inflorescence: length of flowering part  
Ad. 17: Inflorescence: diameter of flowering part



Ad. 18: Inflorescence: number of bracts





## LITERATURE

Baensch, U. and Baensch, U., 1994: Blooming Bromeliads, Tropic Beauty Publishers, Nassau/Bahamas, ISBN 0-9641056-0-8, BS.

Rauh, W., 1981: Bromelien, Verlag Eugen Ulmer, Stuttgart, ISBN 3-8001-6029-3, DE.

Rauh, W., 1990: The Bromeliad Lexicon, Blandford, London, GB.

## ANNEX II



**CPVO • OCVV**

Community Plant Variety Office  
Office Communautaire des Variétés Végétales

### TECHNICAL QUESTIONNAIRE

to be completed in connection with an application for Community Plant Variety Rights  
Please answer all questions. A question without any answer will lead to a non-attribution  
of an application date. In cases where a field / question is not applicable, please state so.

1. **Botanical taxon:** Name of the genus, species or sub-species to which the variety belongs and common name

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GUZMANIA

**Species (indicate)** .....

2. **Applicant(s):** Name(s) and address(es), phone and fax number(s), Email address, and where appropriate name and address of the procedural representative

3. **Variety denomination**

a) Where appropriate proposal for a variety denomination:

b) Provisional designation (breeder's reference):

**4. Information on origin, maintenance and reproduction of the variety**

**4.1 Origin**

- a) Seedling (indicate parent varieties) ..... [ ]
- b) Mutation(indicate parent variety) ..... [ ]
- c) Discovery (indicate where, when and how the variety has been developed) ..... [ ]
- d) Other (please specify) ..... [ ]

**4.2 Method of propagating the variety**

- (a) Cuttings ..... [ ]
- (b) *In vitro* propagation ..... [ ]
- (c) Seed ..... [ ]
- (d) Other (please specify): ..... [ ]

**4.3 Other information on genetic origin and breeding method**

**In the case of seed propagated varieties** method of production:

- (a) Self-pollinated..... [ ]
- (b) Cross-pollinated (please give details)..... [ ]
- (c) Hybrid (please give details) ..... [ ]

**4.4 Geographical origin of the variety:** the region and the country in which the variety was bred or discovered and developed

**5. Characteristics of the variety to be indicated** (the number in brackets refers to the corresponding characteristic in the CPVO Protocol; please mark the state of expression which best corresponds).

	Characteristics	Example varieties	Note
<b>5.1 (1)</b>	<b>Plant: height (inflorescence excluded)</b>		
	very short	Mandarine	1 [ ]
	short	Pax	3 [ ]
	medium	Torch	5 [ ]
	tall	Magenta	7 [ ]
	very tall	<i>Guzmania bismarckii</i>	9 [ ]
<b>5.2 (14)</b>	<b>Inflorescence: position compared to position of leaves</b>		
	below	<i>Guzmania sanguinea</i> , <i>Guzmania erythrolepis</i>	1 [ ]
	same level	Mandarine	2 [ ]
	above	Torch	3 [ ]
<b>5.3 (24)</b>	<b>Bract: colour of upper side</b>		
	RHS Colour Chart (indicate reference number)		
<b>5.4 (19)</b>	<b>Inflorescence: number of flowers per bract</b>		
	one	Torch	1 [ ]
	more than one	Cherry, Rana	2 [ ]

<b>6. Similar varieties and differences from these varieties:</b>			
Denomination of similar variety	Characteristic in which the similar variety is different <sup>1)</sup>	State of expression of similar variety	State of expression of candidate variety
<hr/> <p><sup>1)</sup> In the case of identical states of expressions of both varieties, please indicate the size of the difference</p>			
<b>7. Additional information which may help to distinguish the variety</b> A representative printed-out colour photo of the variety <b>must</b> be added to the technical questionnaire.			
<b>7.1 Resistance to pests and diseases</b>			
<b>7.2 Special conditions for the examination of the variety</b>  <input type="checkbox"/> YES, please specify  <input type="checkbox"/> NO			
<b>7.3 Other information</b>  <input type="checkbox"/> YES, please specify  <input type="checkbox"/> NO			

**8. GMO-information required**

The variety represents a Genetically Modified Organism within the meaning of Article 2(2) of Council Directive 2001/18/EC of 12/03/2001.

YES                       NO

If yes, please add a copy of the written attestation of the responsible authorities stating that a technical examination of the variety under Articles 55 and 56 of the Basic Regulation (EC) No. 2100/94 does not pose risks to the environment according to the norms of the above-mentioned Directive.

**9. Information on plant material to be examined**

**9.1** The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

**9.2** The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| (a) Microorganisms (e.g. virus, bacteria, phytoplasma)      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (b) Chemical treatment (e.g. growth retardant or pesticide) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (c) Tissue culture  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (d) Other factors   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Please provide details of where you have indicated "Yes":

I/we hereby declare that to the best of my/our knowledge the information given in this form is complete and correct.

Date

Signature

Name

[End of document]