

UPOV

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

BOUGAINVILLEA

UPOV Code: BOUGA

Bougainvillea Comm. ex Juss.

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from Denmark and Australia**to be considered by**the Technical Working Party for Ornamental Plants and Forest Trees
at its forty-third session, to be held in Cuernavaca, Morelos State, Mexico,
from September 20 to 24, 2010*

Alternative Names:*

| <i>Botanical name</i> | <i>English</i> | <i>French</i> | <i>German</i> | <i>Spanish</i> |
|---|----------------|----------------------------------|---------------|----------------|
| <i>Bougainvillea</i> Comm. Ex Juss., <i>Bougainvillea</i> Comm. | Bougainvillea | Bougainvill e, Bougainvillier | Bougainvillea | Buganvilla |

The purpose of these guidelines (“Test Guidelines”) is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

| <u>TABLE OF CONTENTS</u> | <u>PAGE</u> |
|--|-------------|
| 1. SUBJECT OF THESE TEST GUIDELINES..... | 3 |
| 2. MATERIAL REQUIRED | 3 |
| 3. METHOD OF EXAMINATION..... | 3 |
| 3.1 Number of Growing Cycles | 3 |
| 3.2 Testing Place | 3 |
| 3.3 Conditions for Conducting the Examination..... | 3 |
| 3.4 Test Design | 4 |
| 3.5 Additional Tests | 4 |
| 4. ASSESSMENT OF DISTINCTNESS, UNIFORMITY AND STABILITY | 4 |
| 4.1 Distinctness | 4 |
| 4.2 Uniformity..... | 5 |
| 4.3 Stability | 5 |
| 5. GROUPING OF VARIETIES AND ORGANIZATION OF THE GROWING TRIAL..... | 6 |
| 6. INTRODUCTION TO THE TABLE OF CHARACTERISTICS | 6 |
| 6.1 Categories of Characteristics..... | 6 |
| 6.2 States of Expression and Corresponding Notes..... | 7 |
| 6.3 Types of Expression..... | 7 |
| 6.4 Example Varieties | 8 |
| 6.5 Legend..... | 8 |
| 7. TABLE OF CHARACTERISTICS/TABLEAU DES CARACTERES/MERKMALSTABELLE/TABLA DE CARACTERES..... | 9 |
| 8. EXPLANATIONS ON THE TABLE OF CHARACTERISTICS | 17 |
| 8.1 Explanations covering several characteristics | 17 |
| 8.2 Explanations for individual characteristics | 17 |
| 9. LITERATURE | 22 |
| 10. TECHNICAL QUESTIONNAIRE | 23 |

1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Bougainvillea* Comm. ex Juss.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The minimum quantity of plant material, to be provided by the applicant, should be:

10 plants

2.3 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.4 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 it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Number of Growing Cycles*

The minimum duration of tests should normally be a single growing cycle

3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 The optimum stage of development for the assessment of the characteristics is at the time of opening of one flower in three inflorescences.

3.3.3 **Observation of color by eye**

Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be

made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of at least 10 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

3.5 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 *Distinctness*

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.1.4 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations for the purposes of distinctness should be made on 9 plants or parts taken from each of 9 plants, disregarding any off-type plants.

4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the second column of the Table of Characteristics (see document TGP/9 “Examining Distinctness”, Section 4 “Observation of characteristics”):

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.”

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

4.2 Uniformity

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 For the assessment of uniformity, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Leaf blade: secondary color (characteristic 15)
- (b) Bract: type (characteristic 25)
- (c) Bract: main color of inner side (stage 3) (characteristic 34) with the following groups:
 - Group 1: white
 - Group 2: yellow
 - Group 3: orange
 - Group 4: red
 - Group 5: pink
 - Group 6: red purple
 - Group 7: purple
 - Group 8: violet

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 “Examining Distinctness”.

6. Introduction to the Table of Characteristics

6.1 *Categories of Characteristics*

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 States of Expression and Corresponding Notes

6.2.1 States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.2.2 In the case of qualitative and pseudo-qualitative characteristics (see Chapter 6.3), all relevant states of expression are presented in the characteristic. However, in the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics. For example, in the case of a quantitative characteristic with 9 states, the presentation of states of expression in the Test Guidelines may be abbreviated as follows:

| State | Note |
|--------|------|
| small | 3 |
| medium | 5 |
| large | 7 |

However, it should be noted that all of the following 9 states of expression exist to describe varieties and should be used as appropriate:

| State | Note |
|---------------------|------|
| very small | 1 |
| very small to small | 2 |
| small | 3 |
| small to medium | 4 |
| medium | 5 |
| medium to large | 6 |
| large | 7 |
| large to very large | 8 |
| very large | 9 |

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 “Development of Test Guidelines”.

6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 *Legend*

(*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3

QN: Quantitative characteristic – see Chapter 6.3

PQ: Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS – see Chapter 4.1.5

(a)-(c) See Explanations on the Table of Characteristics in Chapter 8.1

(+) See Explanations on the Table of Characteristics in Chapter 8.2

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|------------|------------------------------------|----------|---------|---------|---|---------------|
| 1. | Plant: growth habit | | | | | |
| PQ | upright | | | | Pixie Queen | 1 |
| | semi-upright | | | | | 2 |
| | spreading | | | | Vera Pink, Poultoni | 3 |
| 2. | Plant: height | | | | | |
| QN | short | | | | | 3 |
| | medium | | | | | 5 |
| | tall | | | | Zeffa | 7 |
| 3. | (a) Young shoot: color | | | | | |
| PQ | light green | | | | Alexandra | 1 |
| | medium green | | | | | 2 |
| | reddish green | | | | Barbera Karst | 3 |
| | reddish | | | | Vera Deep Purple | 4 |
| 4. | Plant: length of internodes | | | | | |
| (*) | | | | | | |
| QN | (b) short | | | | | 3 |
| | medium | | | | Vera Deep Purple | 5 |
| | long | | | | Killie Campbell | 7 |
| 5. | Stem: thorns | | | | | |
| | (a) absent | | | | Poultoni | 1 |
| | present | | | | | 9 |
| 6. | Thorn: type | | | | | |
| (*) | | | | | | |
| (+) | | | | | | |
| QN | (a) single | | | | | 1 |
| | double | | | | | 2 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|--------------------------|---------------------------|----------|---------|---------|---|---------------|
| 7. (*) | Thorn: length | | | | | |
| QN | short | | | | Pixie Queen | 1 |
| | medium | | | | Alexandra | 2 |
| | long | | | | Rijnbo705 | 3 |
| 8. (*) | Thorn: curvature | | | | | |
| QN | (b) absent or weak | | | | Killie Campbell | 1 |
| | medium | | | | | 2 |
| | strong | | | | Vera Deep Purple | 3 |
| 9. (*) | Leaf blade: length | | | | | |
| QN | (c) short | | | | Tosca | 3 |
| | medium | | | | Wabag | 5 |
| | long | | | | Vera Deep Purple | 7 |
| 10. (*) | Leaf blade: width | | | | | |
| QN | (c) narrow | | | | Pixie Queen | 3 |
| | medium | | | | Vera Deep Purple | 5 |
| | broad | | | | Killie Campbell | 7 |
| 11. (*) (+) | Leaf blade: shape | | | | | |
| PQ | (c) lanceolate | | | | | 1 |
| | medium ovate | | | | Alexandra | 2 |
| | broad ovate | | | | Barbera Karst | 3 |
| | elliptic | | | | Elisabeth | 4 |
| | circular | | | | White Sea Foam? | 5 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|-------------------|------------------------------------|----------|---------|---------|---|---------------|
| 12. (+) | Leaf blade: shape of base | | | | | |
| PQ | (c) attenuate | | | | Vera Deep Purple | 1 |
| | acute | | | | | 2 |
| | obtuse | | | | Nancy Gardner | 3 |
| 13. (+) | Leaf blade: main color | | | | | |
| PQ | (c) yellowish white | | | | | 1 |
| | yellow | | | | | 2 |
| | yellowish green | | | | Pixie Queen | 3 |
| | light green | | | | Mini Thai Variegated | 4 |
| | medium green | | | | | 5 |
| | dark green | | | | | 6 |
| | very dark green | | | | | 7 |
| | grey green | | | | | 8 |
| 14. (+) | Leaf blade: secondary color | | | | | |
| PQ | (c) none | | | | | 1 |
| | white | | | | | 2 |
| | yellowish white | | | | | 3 |
| | yellow | | | | Mini Thai Variegated | 4 |
| | light green | | | | | 5 |
| | medium green | | | | Pixie Queen | 6 |
| | dark green | | | | | 7 |
| | very dark green | | | | | 8 |
| | grey green | | | | | 9 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|------------|--|----------|---------|---------|---|---------------|
| 15. | Leaf blade: distribution of secondary color | | | | | |
| (+) | absent | | | | | |
| | (c) narrow marginal | | | | Zuki | 1 |
| | broad marginal | | | | | 2 |
| | around the mid rib | | | | Pixie Queen | 3 |
| | speckled | | | | Mini Thai Variegated | 4 |
| | irregular | | | | | 5 |
| 16. | Leaf blade: tertiary color | | | | | |
| (+) | | | | | | |
| PQ | (c) none | | | | | 1 |
| | white | | | | | 2 |
| | yellowish white | | | | | 3 |
| | yellow | | | | | 4 |
| | light green | | | | Pixie Queen | 5 |
| | medium green | | | | | 6 |
| | dark green | | | | | 7 |
| | very dark green | | | | | 8 |
| | grey green | | | | | 9 |
| 17. | Leaf blade: undulation of margin | | | | | |
| QN | (c) absent or very weak | | | | | 3 |
| | medium | | | | | 5 |
| | very strong | | | | | 7 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|------------|---|----------|---------|---------|---|---------------|
| 18. | Petiole: length | | | | | |
| (*) | | | | | | |
| (+) | | | | | | |
| QN | (c) short | | | | Mini Thai | 1 |
| | medium | | | | Vera Deep Purple | 2 |
| | long | | | | Killie Campbell | 3 |
| 19. | Peduncle: length | | | | | |
| (+) | | | | | | |
| QN | short | | | | Vera Deep Purple | 3 |
| | medium | | | | Rijnbo705 | 5 |
| | long | | | | Barbera Karst | 7 |
| 20. | Inflorescence: number of bract clusters | | | | | |
| QN | few | | | | | 3 |
| | medium | | | | | 5 |
| | many | | | | | 7 |
| 21. | Inflorescence: density of bract clusters | | | | | |
| QN | sparse | | | | | 3 |
| | medium | | | | | 5 |
| | dense | | | | | 7 |
| 22. | Inflorescence: arrangement | | | | | |
| QL? | terminal | | | | | 1 |
| | axillary | | | | | 2 |
| | axillary and terminal | | | | | 3 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|-------------------------|---|----------|---------|---------|---|---------------|
| 23. | Inflorescence: presence of flowers | | | | | |
| QL | absent | | | | Dania | 1 |
| | present | | | | Vera Deep Purple | 9 |
| | | | | | Alexandra | |
| 24. (* (+) | Bract: type | | | | | |
| QL | single | | | | Alexandra | 1 |
| | double | | | | Dania | 2 |
| 25. | Bract: length | | | | | |
| QN | short | | | | Mini Thai | 3 |
| | medium | | | | | 5 |
| | long | | | | Killie Campbell | 7 |
| 26. | Bract: width | | | | | |
| QN | narrow | | | | Mini Thai | 3 |
| | medium | | | | Vera Deep Purple | 5 |
| | broad | | | | Killie Campbell | 7 |
| 27. (* (+) | Bract: shape | | | | | |
| PQ | lanceolate? | | | | | 1 |
| | ovate | | | | Vera Deep Purple | 2 |
| | elliptic? | | | | | 3 |
| | circular | | | | Afterglow | 4 |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|--------------------------|---|----------|---------|---------|---|---------------|
| 28. (*) (+) | Bract: shape of base | | | | | |
| PQ | attenuate | | | | | 1 |
| | acute | | | | Easter Parade | 2 |
| | obtuse | | | | Pixie Queen | 3 |
| | cordate | | | | Siggi | 4 |
| 30. (*) | Calyx tube: color | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |
| 31. | Calyx lobes: color of <u>upper side</u> | | | | | |
| | RHS Colour Chart (indicate reference number) | | | | | |
| 32. (+) | Bract: main color of <u>outer side (stage 1)</u> | | | | | |
| | RHS Colour Chart (indicate reference number) | | | | | |
| 33. (+) | Bract: main color of <u>inner side (stage 2)</u> | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |
| 34. (+) | Bract: main color of <u>inner side (stage 3)</u> | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|------------|--|----------|---------|---------|---|---------------|
| 35. | Bract: <u>secondary</u> | | | | | |
| (+) | color of inner side | | | | | |
| | (stage 3) | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |
| 36. | Bract: <u>tertiary</u> | | | | | |
| (+) | color of inner side | | | | | |
| | (stage 3) | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |
| 37. | Bract: <u>main</u> | | | | | |
| (+) | color of inner side (stage 4) | | | | | |
| PQ | RHS Colour Chart (indicate reference number) | | | | | |

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) Young shoot and stem: observations should be made on the upper third of the main shoot.
- (b) Length of internodes: observations should be made on the middle third of the main shoot.
- (c) Leaf and petiole: observations on the leaf should be made on a developed leaf from the middle third of the main shoot.

8.2 *Explanations for individual characteristics*

Ad. 6: Thorn: type

[Mexico to provide photo]

[Mexico to provide photo]

1
single

2
double

Ad. 11: Leaf blade: shape



1

lanceolate



2

medium
ovate



4

elliptic



3

broad ovate



5

circular

Ad. 12: Leaf blade: shape of base

| | | | |
|---|---|---|---|
| A line drawing of a leaf base that tapers to a point at the apex. | A line drawing of a leaf base that tapers to a sharp point at the apex. | A line drawing of a leaf base that tapers to a blunt point at the apex. | A line drawing of a leaf base that is heart-shaped, with the notch at the apex. |
| 1 | 2 | 3 | 4 |
| attenuate | acute | obtuse | cordate |

Ad. 13: Leaf blade: main color

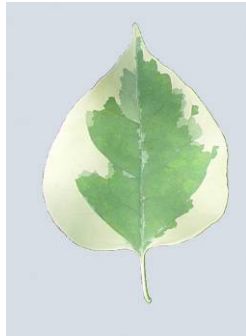
Ad. 14: Leaf blade: secondary color

Ad. 15: Leaf blade: distribution of secondary color



2

narrow marginal



3

broad marginal



4

around the midrib



5

speckled



6

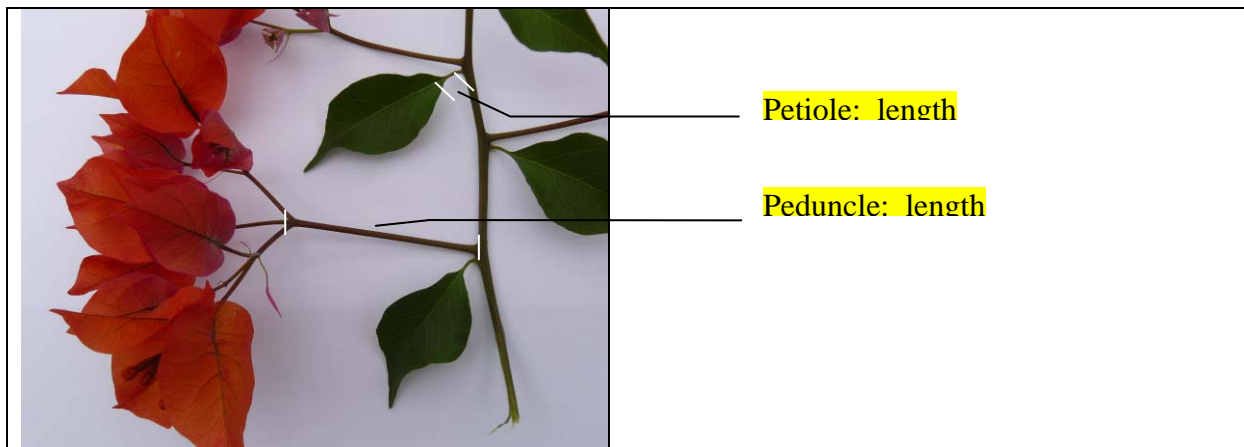
irregular

Ad. 16: Leaf blade: tertiary color

The main color is the color with the largest surface area. The secondary color is the color with the second largest surface area. If the area of the colors is nearly half and half, the darker color is the main color. The tertiary color is the color with the third largest surface area. **The main color may be the only color.**

Ad. 18: Petiole: length

Ad. 19: Peduncle: length



Ad. 24: Bract: type



1
single



2
double

Ad. 27: Bract: shape

[Need to check states and add examples]

| | |
|-------|----------|
| | |
| 1 | 2 |
| ovate | circular |

Ad. 28: Bract shape of base

1
attenuate

2
acute



3
obtuse



4
cordate

Ad. 32: Bract: main color of outer side (stage 1)

Ad. 33: Bract: main color of inner side (stage 2)

Ad. 34: Bract: main color of inner side (stage 3)

Ad. 35: Bract: secondary color of inner side (stage 3)

Ad. 36: Bract: tertiary color of inner side (stage 3)

The main color is the color with the largest surface area. The secondary color is the color with the second largest surface area. If the area of the colors is nearly half and half, the darker color is the main color. The tertiary color is the color with the third largest surface area.

Ad. 32: Bract: main color of outer side (stage 1)

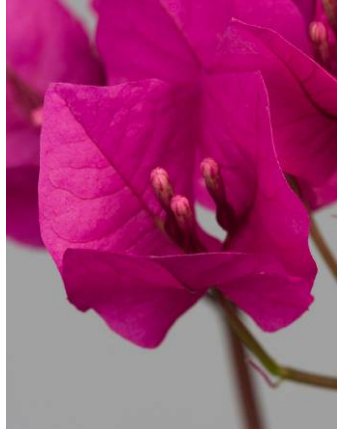
Ad. 33: Bract: main color of inner side (stage 2)

Ad. 34: Bract: main color of inner side (stage 3)

Ad. 37: Bract: main color of inner side (stage 4)



Stage 1



Stage 2



Stage 3



Stage 4

Stage 1: small young bracts app. 1-2 cm long.

Stage 2: young bracts – calyx lobe not opened

Stage 3: young bracts – calyx lobe opened

Stage 4: young bracts – calyx lobe wilted

9. Literature

[to be provided]

10. Technical Questionnaire

| | | |
|--|---|---|
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
| | | Application date: (not to be filled in by the applicant) |
| TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights | | |
| 1. Subject of the Technical Questionnaire | | |
| 1.1 Botanical name | <input type="text" value="Bougainvillea Comm. ex Juss."/> | |
| 1.2 Common name | <input type="text" value="Bougainvillea"/> | |
| 2. Applicant | | |
| Name | <input type="text"/> | |
| Address | <input type="text"/> | |
| Telephone No. | <input type="text"/> | |
| Fax No. | <input type="text"/> | |
| E-mail address | <input type="text"/> | |
| Breeder (if different from applicant) | <input type="text"/> | |
| 3. Proposed denomination and breeder's reference | | |
| Proposed denomination (if available) | <input type="text"/> | |
| Breeder's reference | <input type="text"/> | |

| | | |
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| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

- (a) controlled cross []
 (please state parent varieties)

| | | |
|---------------|---|-------------|
| (.....) | x | (.....) |
| female parent | | male parent |

- (b) partially known cross []
 (please state known parent variety(ies))

| | | |
|---------------|---|-------------|
| (.....) | x | (.....) |
| female parent | | male parent |

- (c) unknown cross []

- 4.1.2 Mutation []
 (please state parent variety)

| |
|--|
| |
|--|

- 4.1.3 Discovery and development []
 (please state where and when discovered and how developed)

| |
|--|
| |
|--|

- 4.1.4 Other []
 (please provide details)

| |
|--|
| |
|--|

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

| | | |
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| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

4.2 Method of propagating the variety

4.2.1 Vegetative propagation

(a) cuttings

(b) *in vitro* propagation

(c) other (state method)

4.2.2 Seed

4.2.3 Other

(please provide details)

| | | |
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| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).

| Characteristics | Example Varieties | Note |
|--|-----------------------------|-------------|
| 5.1 (15) Leaf blade: secondary color | | |
| <u>none</u> | | <u>1[]</u> |
| <u>white</u> | | <u>2[]</u> |
| <u>yellowish white</u> | | <u>3[]</u> |
| <u>yellow</u> | <u>Mini Thai Variegated</u> | <u>4[]</u> |
| <u>light green</u> | | <u>5[]</u> |
| <u>medium green</u> | <u>Pixie Queen</u> | <u>6[]</u> |
| <u>dark green</u> | | <u>7[]</u> |
| <u>very dark green</u> | | <u>8[]</u> |
| <u>grey green</u> | | <u>9[]</u> |
| 5.2 (25) Bract: type | | |
| single | Alexandra | 1[] |
| double | Dania <u>red</u> | 2[] |

| | | |
|-------------------------|-----------------|-------------------|
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

| Characteristics | Example Varieties | Note |
|--|-------------------|------|
| 5.3i (19) Bract: <u>mature bracts</u>: color of <u>inner side</u> RHS Colour Chart (indicate reference number) | | |
| 5.3ii (19) Bract: <u>mature bracts</u>: color of <u>inner side</u> | | |
| white | Stuttgart | 1[] |
| yellow | | 2[] |
| orange | | 3[] |
| red | | 4[] |
| purple | | 5[] |
| pink | | 6[] |
| other | | 7[] |

| | | |
|-------------------------|-----------------|-------------------|
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

6. Similar varieties and differences from these varieties

Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

| Denomination(s) of variety(ies) similar to your candidate variety | Characteristic(s) in which your candidate variety differs from the similar variety(ies) | Describe the expression of the characteristic(s) for the similar variety(ies) | Describe the expression of the characteristic(s) for your candidate variety |
|---|---|--|--|
| <i>Example</i> | <i>Leaf blade: number of colors of upper side</i> | <i>one</i> | <i>two</i> |
| | | | |
| | | | |
| | | | |

Comments:

| | | |
|-------------------------|-----------------|-------------------|
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

#7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [] No []

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes [] No []

(If yes, please provide details)

7.3 Other information

A representative color image of the variety should accompany the Technical Questionnaire

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [] No []

(b) Has such authorization been obtained?

Yes [] No []

If the answer to (b) is yes, please attach a copy of the authorization.

Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

| | | |
|-------------------------|-----------------|-------------------|
| TECHNICAL QUESTIONNAIRE | Page {x} of {y} | Reference Number: |
|-------------------------|-----------------|-------------------|

9. Information on plant material to be examined or submitted for examination.

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) | Yes [] | No [] |
| (b) Chemical treatment (e.g. growth retardant, pesticide) | Yes [] | No [] |
| (c) Tissue culture | Yes [] | No [] |
| (d) Other factors | Yes [] | No [] |

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature

Date

[End of document]