



**European Union**  
Community Plant Variety Office

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

*Bouvardia* Salisb.

**BOUWARDIA**

**UPOV Species Code: BOUVA**

**Adopted on 27<sup>th</sup> March 2003**

## **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/158/3 dated 1<sup>st</sup> April 1998 for the conduct of tests for Distinctness, Uniformity and Stability. This protocol applies to all vegetatively propagated varieties of *Bouvardia Salisb.*

## **II - SUBMISSION OF 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

Survey of final dates for request for technical examination and sending of Technical Questionnaire by the CPVO as well as submission date of plant material by the applicant, and quantity of plant material to be supplied by the applicant in one sample.

Examination office in	Request of examination	Plant material	
The Netherlands	15/03	between 01/06 and 15/06	25 young plants of commercial standard

Quality:..... The plant material supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease, especially virus.

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 the 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 reference collection only if plant material is available to make a technical examination.

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

- varieties listed or protected at the EU level;
- 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 variety 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 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 N° 1239/95, 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 (characteristic 1)
- b) Flower: type (characteristic 24)
- c) Corolla: diameter (widest diameter) (characteristic 26)
- d) Corolla lobe: number of colours on upper side (characteristic 33)
- e) Corolla lobe: main colour on upper side (characteristic 34)

### 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 20 plants. 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 fully developed leaves of the middle third of the stem.

The test should normally be conducted at one place.

The test should be carried out in the greenhouse under the following growing conditions:

Soil..... Well-drained fertile soil with a high content of organic matter or organic substrate.

Temperature..... Minima of 21 to 23 °C (day) and of 16 to 18 °C (night).

Planting..... Mid June - Early July

Optimal Day length ..... Vegetative growth: more than 13 to 14 hours.  
Flower induction: less than 11 hours. Flower induction requires short-day conditions or short-day treatment for 21 to 25 days.  
Natural daylight from second half of August is sufficient for flower induction.

6. Special tests

In accordance with Article 83(3) of Council Regulation 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 No. 2100/94.

### b) **Uniformity**

For the assessment of uniformity a population standard of 1% with an acceptance probability of at least 95% should be applied.

For vegetatively propagated varieties, the candidate will be considered to be sufficiently uniform if the number of off-types does not exceed 1 in 20 plants examined.

### 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.

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## ANNEXES TO FOLLOW

### ANNEX I

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Legend:

(+): See Explanations on the Table of Characteristics

Explanations on the table of characteristics ..... 17

Literature ..... 20

### ANNEX II

Technical questionnaire



## ANNEX I

### TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics	Examples	Note	
1.	1.	<b>Plant: height</b>	very short		1
			short	Little Pink	3
			medium	Bridesmaid	5
			tall	Caroline, Denise	7
			very tall	White Charla	9
2.	2.	<b>Stem: shape in cross section (at middle third)</b>	round	Roxette	1
			obtuse- quadrangular	Denise, White Charla	2
			quadrangular		3
3.	3.	<b>Stem: colour (at upper part)</b>	light green	Latosca, White Dream	1
			medium green	Royal Pauline	2
			purplish red	Joanne, Royal Joanne	3
			greenish brown	Roxette, Royal Roxanne	4
			purplish brown	Roxella, White Charla	5
4.	4.	<b>Stem: colour shade of lower part</b>	light brown	Caroline, White Charla	1
			medium brown	Royal Joanne	2
			reddish		3
5.	5.	<b>Stem: length of internode (at middle third of stem)</b>	short		3
			medium		5
			long		7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
6.	6.	<b>Stem: ramification</b>	weak	Caroline	3
			medium	Bridesmaid	5
			strong	Lilac Latosca	7
7.	7.	<b>Leaf blade: length</b>	short	Little Pink	3
			medium	Royal Jolita	5
			long	Roxella, Royal Tessa	7
8.	8.	<b>Leaf blade: width</b>	narrow	Little Pink	3
			medium	Lilac Latosca	5
			broad	Royal Tessa	7
9.	9.	<b>Leaf blade: rigidity</b>	weak		3
			medium	Bridesmaid	5
			rigid	Royal Jolita	7
10. (+)	10. (+)	<b>Leaf blade: shape</b>	narrow ovate	Little Pink	1
			ovate	Joanne, Redrox	2
			narrow elliptic	Lilac Latosca	3
			elliptic	La Patrice, Royal Tessa	4
			obovate		5
11.	11.	<b>Leaf blade: intensity of green colour on <u>upper</u> side</b>	light		3
			medium	La Patrice, Royal Roxella	5
			dark	Redrox, White Charla	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
<b>12.</b> (+)	<b>12.</b> (+)	<b>Leaf blade: shape of apex</b>	acuminate	La Patrice	1
			sharp acute	Roxette, Royal Joanne	2
			blunt acute		3
			rounded		4
<b>13.</b> (+)	<b>13.</b> (+)	<b>Leaf blade: shape of base</b>	attenuate		1
			acute		2
			obtuse		3
			rounded		4
			cordate		5
<b>14.</b>	<b>14.</b>	<b>Leaf blade: shape in cross section</b>	concave	White Charla	1
			flat	Carolina, van Zijverden	2
			convex		3
<b>15.</b>	<b>15.</b>	<b>Leaf blade: blistering</b>	absent or very weak		1
			weak		3
			medium		5
			strong		7
			very strong		9
<b>16.</b>	<b>16.</b>	<b>Petiole: length</b>	short	La Patrice	3
			medium		5
			long		7
<b>17.</b> (+)	<b>17.</b> (+)	<b>Inflorescence: length</b>	short		3
			medium		5
			long		7
<b>18.</b> (+)	<b>18.</b> (+)	<b>Inflorescence: maximum diameter</b>			

CPVO N°	UPOV N°	Characteristics	Examples	Note
		small		3
		medium		5
		large		7
<b>19.</b> (+)	<b>19.</b> (+)	<b>Inflorescence: minimum diameter</b>		
		small		3
		medium		5
		large		7
<b>20.</b>	<b>20.</b>	<b>Inflorescence: number of flowers</b>		
		few	White Charla	3
		medium	Roxette	5
		many	Artemis	7
<b>21.</b>	<b>21.</b>	<b>Inflorescence: density</b>		
		loose	White Charla	3
		medium	Roxette	5
		dense	Bridesmaid, van Zijverden	7
<b>22.</b>	<b>22.</b>	<b>Flower bud: colour (before opening)</b>		
		white	White Charla	1
		light yellow		2
		light pink	Bridesmaid, Roxella	3
		medium pink	Royal Roxanne	4
		dark pink		5
		reddish orange	Redrox	6
		medium red	Joanne	7
		dark red		8
<b>23.</b>	<b>23.</b>	<b>Flower: size of sepal (largest sepal)</b>		
		small	Little Pink	3
		medium	Redrox	5
		large	White Charla	7
<b>24.</b>	<b>24.</b>	<b>Flower: type</b>		
		single	Roxella	1

CPVO N°	UPOV N°	Characteristics	Examples	Note
		semi-double	Van Zijverden	2
		double	Bridesmaid, Paulette	3
<b>25.</b> (+)	<b>25.</b> (+)	<b>Corolla: attitude of outer lobes</b>		
		erect	Artemis, Lilac Latosca	1
		semi-erect		3
		horizontal	Red Star	5
		semi-recurved	Roxanne, Tessa	7
		recurved		9
<b>26.</b>	<b>26.</b>	<b>Corolla: diameter (widest diameter)</b>		
		small	La Patrice, Lilac Latosca	3
		medium	Joanne, Roxette	5
		large	Denise, White Charla	7
<b>27.</b>	<b>27.</b>	<b>Corolla tube: diameter (at base of corolla lobes)</b>		
		small		3
		medium		5
		large		7
<b>28.</b>	<b>28.</b>	<b>Corolla tube: diameter (in middle part)</b>		
		small		3
		medium		5
		large		7
<b>29.</b>	<b>29.</b>	<b>Corolla tube: length</b>		
		very short		1
		short	Paulette	3
		medium	Roxette, Royal Jolita	5
		long		7
		very long	White Charla	9
<b>30.</b>	<b>30.</b>	<b>Corolla tube: colour (outer side)</b>	RHS Colour Chart (indicate reference number)	
			.....	
<b>31.</b>	<b>31.</b>	<b>Corolla lobe: length (outer lobes)</b>		
		short	Lilac Latosca	3

CPVO N°	UPOV N°	Characteristics	Examples	Note	
		medium	Paulette, Redrox	5	
		long	Joanne, Roxella	7	
32.	32.	<b>Corolla lobe: width (as for 31)</b>	narrow	Lilac Latosca	3
			medium	Latosca, Tessa	5
			broad	Roxella, Redrox	7
33.	33.	<b>Corolla lobe: number of colours on upper side</b>	one	Joanne, White Charla	1
			more than one	Royal Tessa, Rowena	2
34.	34.	<b>Corolla lobe: <u>main</u> colour on upper side</b>	RHS Colour Chart (indicate reference number) .....		
35.	35.	<b>Corolla lobe: <u>secondary</u> colour on upper side</b>	RHS Colour Chart (indicate reference number) .....		
36. (+)	36. (+)	<b>Corolla lobe: colour pattern</b>	at the tip	Latosca, Roxette	1
			along margin	Roxella	2
			splashed		3
			eyed	Royal Tessa, Rowena	4
			median stripe	Red Star, R. Paulette	5
37.	37.	<b>Corolla lobe: shading</b>	absent		1
			present	Royal Jolita	9
38.	38.	<b>Corolla lobe: rigidity of outer lobes</b>	weak		3
			medium		5
			rigid		7
39. (+)	39. (+)	<b>Corolla lobe: shape (as for 31)</b>	ovate	Redrox	1
			broad ovate	Paulette	2
			elliptic	Little Pink	3

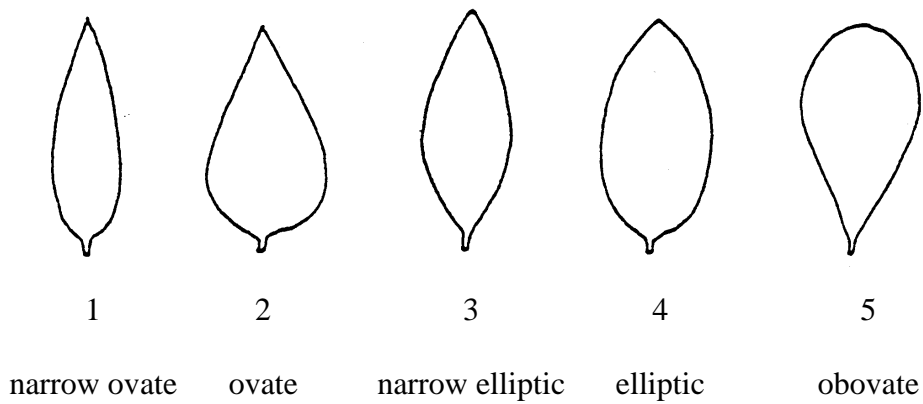
CPVO N°	UPOV N°	Characteristics	Examples	Note	
		obovate		4	
<b>40.</b> (+)	<b>40.</b> (+)	<b>Corolla lobe: shape of apex (as for 31)</b>	acuminate		1
			sharp acute	Roxella	2
			blunt acute		3
			rounded		4
<b>41.</b>	<b>41.</b>	<b>Corolla lobe: shape in cross section</b>	concave		1
			flat	Royal Jolita, Royal Pauline	2
			convex	White Charla	3
<b>42.</b>	<b>42.</b>	<b>Anthers: petaloidy</b>	absent	White Charla	1
			sometimes present	La Patrice, Royal Tessa	2
			always present	Royal Roxanne	3
<b>43.</b>	<b>43.</b>	<b>Anthers: colour (before anthesis)</b>	white	Royal Tessa	1
			yellowish white	Roxella	2
			brown	Lilac Latosca	3
			purplish black		4
<b>44.</b>	<b>44.</b>	<b>Style: petaloidy</b>	absent	Red Star, White Charla	1
			sometimes present		2
			always present	Lamira	3
<b>45.</b>	<b>45.</b>	<b>Style: length</b>	short	La Patrice	3
			medium	Royal Joanne, Royal Roxanne	5
			long	Caroline, White Charla	7

CPVO N°	UPOV N°	Characteristics	Examples	Note	
46.	46.	<b>Time of beginning of flowering</b>	early	Sappho, White Dream	3
			medium	Bridesmaid, Royal Jorosa	5
			late	Royal Roxanne	7

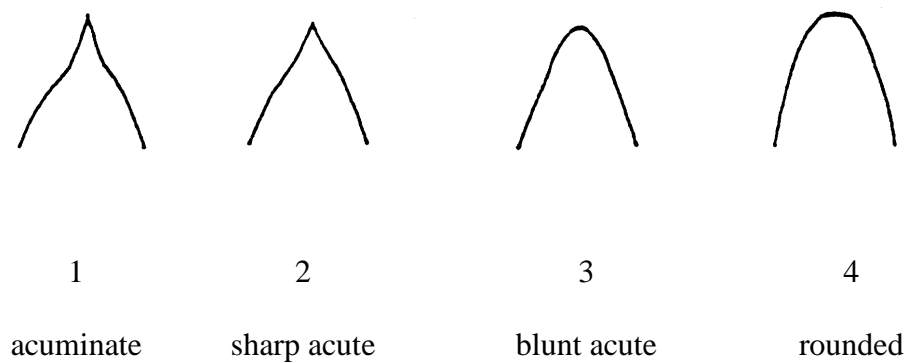


## EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

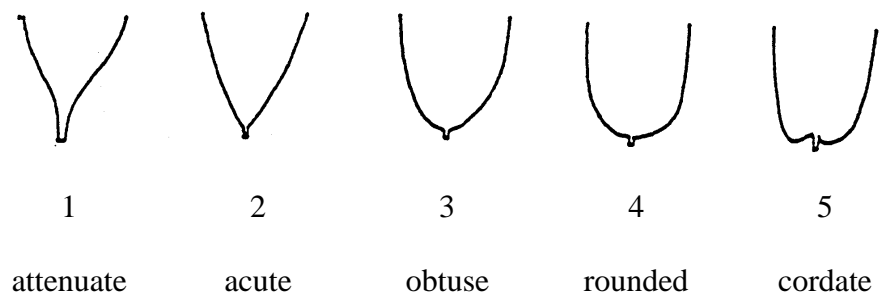
### Ad. 10: Leaf blade: shape



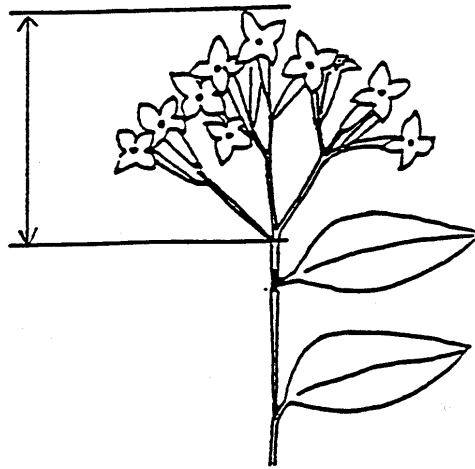
### Ad. 12: Leaf blade: shape of apex



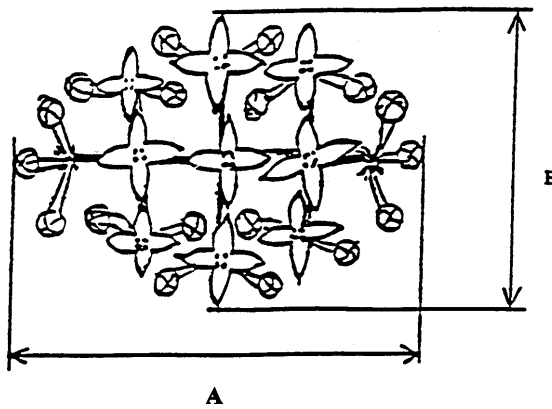
### Ad. 13: Leaf blade: shape of base



Ad. 17 : Inflorescence: length

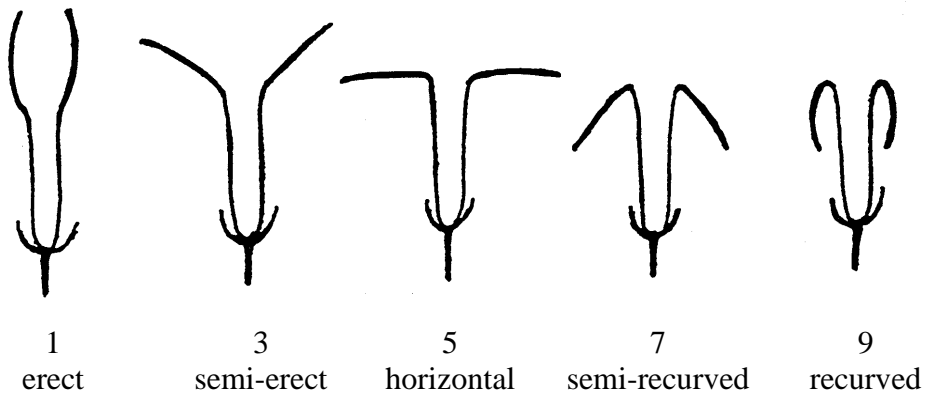


Ad. 18 and 19: Inflorescence: diameter

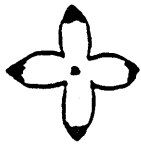


A = maximum diameter (characteristic 18) B = minimum diameter (characteristic 19)

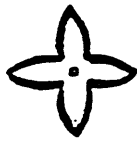
Ad. 25: Corolla: attitude of outer lobes



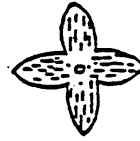
Ad. 36: Corolla lobe: colour pattern



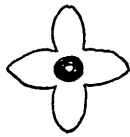
1  
at the tip



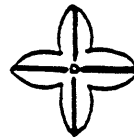
2  
along margin



3  
splashed



4  
eyed



5  
median stripe

Ad. 39: Corolla lobe: shape



1  
ovate



2  
broad ovate



3  
elliptic



4  
obovate

Ad. 40: Corolla lobe: shape of apex



1  
acuminate



2  
sharp acute



3  
blunt acute



4  
rounded

## LITERATURE

Hetterscheid, W.L.A., 1988: Sortiment *Bouvardia* beschreven en benaamd, Vakblad voor de Bloemisterij 43-11, pp. 40-43 (in Dutch; 14 ill.)

## **ANNEX II**

The Technical Questionnaire is available on the CPVO website under the following reference:  
CPVO-TQ/158/1