European Union
Community Plant Variety Office

PROTOCOL FOR DISTINCTNESS, UNIFORMITY AND STABILITY TESTS

Diascia Link & Otto

DIASCIA, TWINSPUR

UPOV Species Code: DIASC

Adopted on 14th November 2007

I - SUBJECT OF THE PROTOCOL

The protocol describes the technical procedures to be followed in order to meet the requirement of Council Regulation (EC) No. 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/233/1 dated 28th March 2007 for the conduct of tests for Distinctness, Uniformity and Stability and conclusions of the ornamental experts' meeting of 19th and 20th September 2007. This protocol applies to all varieties of ***Diascia*** **Link & Otto** of the family *Scrophulariaceae*.

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

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

Quality: ..... The plant material supplied should be visibly healthy, not lacking in vigour or affected by any important pest or disease, especially viruses, 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/EEC 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 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 (EC) 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 (EC) No. 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: growth habit (characteristic 1)

(b) Corolla: main colour (characteristic 20) with the following groups:
Gr. 1: white
Gr. 2: light pink
Gr. 3: medium pink
Gr. 4: dark pink
Gr. 5: orange pink
Gr. 6: orange
Gr. 7: orange red
Gr. 8: red
Gr. 9: red purple
Gr. 10: light violet

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 10 plants for vegetatively propagated varieties and 20 plants for seed propagated varieties. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions.

For vegetatively propagated varieties, all observations on single plants determined by measurement or counting, should be made on 10 plants or parts taken from each of 10 plants.

For seed propagated varieties, all observations on single plants determined by measurement or counting, should be made on 20 plants or parts taken from each of 20 plants.

Any other observations should be made on all plants in the test.

The test should normally be conducted at one place.

The test should be carried out in the open under conditions ensuring normal growth. Plants should be grown in containers so that the habit can be observed.

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 examination that a candidate variety 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 in vegetatively proparated varieties and in seed propagated varieties which are self pollinated, a population standard of 1% with an acceptance probability of at least 95% should be applied.

For vegetatively propagated varieties and for seed propagated varieties which are self pollinated, for a sample size between 6 and 35 plants, only 1 off-type is allowed.

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 from the Examination Office 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.

****

ANNEXES TO FOLLOW

ANNEX I PAGE

Legend:

QL Qualitative characteristic

QN Quantitative characteristic

PQ Pseudo-qualitative characteristic

(a) – (e) See explanations on the Table of characteristics

(+) See explanations on the Table of characteristics

(*): Important characteristic to be included in the UPOV variety description

ANNEX II

Technical questionnaire

ANNEX I

TABLE OF CHARACTERISTICS

CPVO N°	UPOV N°	Characteristics		Examples	Note
1. **(+)**	**1.** **(*)** **(+)**	**Plant: growth habit**			
PQ	**PQ**		upright	Codiap, Heccharm, Prince of Orange	1
			semi-upright	Coditer, Ice Cream	2
			spreading	Diastara	3
			semi-trailing	Hecrace	4
2. **(+)**	**2.** **(+)**	**Plant: height**			
QN	**QN**		short	Codiap, Codilav, Pendan	3
			medium	Diastonia, Diastu	5
			tall	Balwhiswhit, Ice Cream	7
3.	**3.**	**Plant: width at broadest part**			
QN	**QN**		narrow	Codilav, Ice Cream	3
			medium	Codiusre	5
			broad	Balwhiswhit	7
4.	**4.**	**Plant: density**			
QN	**QN**		sparse	Hecrace, Ice Cracker	3
			medium	Codiap	5
			dense	Diastrosis, Diastu, Heccharm	7
5.	**5.**	**Stem: anthocyanin coloration below inflorescence**			
QN	**QN**		absent or weak	Heccharm	1
			medium	Hecrace	2
			strong		3

CPVO N°	UPOV N°	Characteristics		Examples	Note
6.	**6. (*)**	**(a) Leaf blade: length**			
QN	**QN**		short	Coditer, Strawberry Sundae	3
			medium	Codiusre	5
			long	Balwhislapi, Balwhiswhit	7
7.	**7. (*)**	**(a) Leaf blade: width**			
QN	**QN**		narrow	Balwhiswhit, Coditer, Strawberry Sundae	3
			medium	Codipeim, Diastonia	5
			broad	Balwhislapi	7
8. (+)	**8. (+)**	**(a) Leaf blade: shape of apex**			
PQ	**PQ**		acute	Balwhiswhit, Diastu, Diastured, Heccharm	1
			obtuse	Balwinimstr	2
			rounded	Diasroroc	3
9. (+)	**9. (+)**	**(a) Leaf blade: shape of base**			
PQ	**PQ**		rounded	Balwhiswhit	1
			truncate	Diastara, Icepole	2
			cordate	Codiap, Diastina, Heccharm	3
10.	**10.**	**(a) (b) Leaf blade: glossiness**			
QN	**QN**		absent or weak	Diasroroc	1
			medium	Diastonia	2
			strong	Diastusca	3

CPVO N°	UPOV N°		Characteristics		Examples	Note
11.	**11. (*)**	**(a) (b)**	**Leaf blade: variegation**			
QL	**QL**			absent	Diastu	1
				present	Belmore Beauty, Golden Dancer, Katherine Sharman	9
12.	**12. (*)**	**(a) (b)**	**Leaf blade: green colour**			
QN	**QN**			light	Balwhislapi, Iceberg	1
				medium	Codiap, Coditer, Hecrace	2
				dark	Balwhiscran, Codiusre, Strawberry Sundae	3
13.	**13. (*)**	**(a) (b)**	**Leaf blade: colour of variegation**			
PQ	**PQ**			light yellow	Katherine Sharman	1
				medium yellow	Belmore Beauty	2
				yellow green	Golden Dancer	3
14.	**14.**	**(c)**	**Inflorescence: density**			
QN	**QN**			sparse	Balwhislapi, Ice Cream	3
				medium	Codilav, Diastu	5
				dense	Balwinlapi, Coditer, Strawberry Sundae	7
15.	**15.**	**(c)**	**Pedicel: length**			
QN	**QN**			short	Diastis, Lilac Belle	1
				medium	Diasttralav, Diastu	2
				long	Balwinwite, Hecrace	3
16.	**16.**	**(c)**	**Pedicel: angle relative to peduncle**			
QN	**QN**			small	Diasroroc, Diastu	3
				medium	Diastusca, Kledi04015	5
				large	Pendan, Wink Pink Improved	7

CPVO N°	UPOV N°		Characteristics		Examples	Note
17.	**17.**	**(c)**	**Pedicel: anthocyanin coloration**			
QN	**QN**			absent or weak	Diastis	1
				medium	Diastonia, Diastu	2
				strong	Diastara, Hecrace	3
18. (+)	**18. (*) (+)**	**(d)**	**Corolla: length**			
QN	**QN**			short	Codiusre, Diastonia, Lilac Belle	3
				medium	Diastu	5
				long	Balwhistang, Balwhiswhit, Hecrace	7
19. (+)	**19. (*) (+)**	**(d)**	**Corolla: width**			
QN	**QN**			narrow	Diastonia, Lilac Belle	3
				medium	Codilav, Diastu	5
				broad	Balwhiswhit, Codipeim, Diatrosis	7
20.	**20. (*)**	**(d) (e)**	**Corolla: main colour**			
PQ	**PQ**			RHS Colour Chart (indicate reference number)		
21. (+)	**21. (*) (+)**	**(d)**	**Corolla: reflexing of lateral lobes**			
QN	**QN**			absent or weak	Balwhiswhit, Diastara, Pendan	1
				medium	Codipeim, Diastis, Penther	2
				strong	Diaspetis, Ice Cream	3

CPVO N°	UPOV N°		Characteristics	Examples	Note
22. (+)	**22. (*) (+)**	**(d)**	**Corolla: lower lobe: length in relation to width**		
QN	**QN**		longer than broad	Coditer, Rupert Lambert	1
			as long as broad	Balwinlapi, Diastu	2
			broader than long	Balwhiswhit, Hecrace, Ice Cream	3
23. (+)	**23. (+)**	**(d)**	**Corolla: lower lobe: incurving**		
QN	**QN**		absent or weak	Balwhisdarco	1
			medium	Diastara	2
			strong	Diastusca	3
24.	**24.**	**(d)**	**Corolla: lower lobe: undulation of margin**		
QN	**QN**		weak	Balwhiswhit, Heccharm, Penther	3
			medium	Diastu, Sumdia 02	5
			strong	Diaspetis, Rupert Lambert	7
25. (+)	**25. (*) (+)**	**(d) (e)**	**Corolla: lower lobe: presence of trichomal elaiophores**		
QL	**QL**		absent	Balwinlapi, Codipeim, Diastina, Diaspetis	1
			present	Diastis, Diastu, Hecrace, Ice Cream	9
26.	**26. (*)**	**(d) (e)**	**Trichomal elaiophores: density**		
QN	**QN**		sparse	Balwhiscran, Codilav, Diastonia, Hecrace	1
			medium	Balwhiswhit, Diastu	2
			dense	Codiusre, Diastis, Ice Cream	3

CPVO N°	UPOV N°		Characteristics	Examples	Note
27. (+)	**27 (+)**	**(d) (e)**	**Corolla window: colour**		
PQ	**PQ**		green yellow	Diastu	1
			light yellow	Diastuca	2
			medium yellow	Balwhisdarco, Codipeim, Diaspetis	3
			dark yellow	Coditer, Diastina, Diastis, Diastured	4
28. (+)	**28. (*) (+)**	**(d)**	**Spur: length**		
QN	**QN**		short	Codilav, Codiusre, Sumdia 03	3
			medium	Balwinlapi, Codipeim	5
			long	Balwincor, Diastara, Strawberry Sundae	7
29. (+)	**29. (+)**	**(d)**	**Spur: colour**		
PQ	**PQ**		RHS Colour Chart (indicate reference number)		
30. (+)	**30. (+)**	**(d)**	**Spur: curvature**		
QN	**QN**		absent or weak	Penther	1
			medium	Balwinlapi, Codipeim, Diastara	2
			strong	Balwinimstr, Diastis, Diastonia	3
31. (+)	**31. (+)**	**(d)**	**Spur: attitude of tip**		
PQ	**PQ**		pointing inwards		1
			pointing downwards		2
			pointing outwards		3

EXPLANATIONS ON THE TABLE OF CHARACTERISTICS

Explanations covering several characteristics

Unless otherwise indicated, all characteristics should be observed at the time of full flowering.

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

(a) Observations on the leaf blade should be made on fully expanded leaves from the middle third of a flowering stem;

(b) Observations on the leaf blade should be made on the upper side;

(c) Observations should be made on the middle third of an inflorescence;

(d) Observations on the corolla should be made on fresh fully open flowers;

(e) Observations on the corolla should be made on the inner side.

Explanations for individual characteristics

Ad. 1: Plant: growth habit

The plants should be grown in containers to observe the plant growth habit.

Ad. 2: Plant: height

Plant height should be measured from the surface of the growing medium.

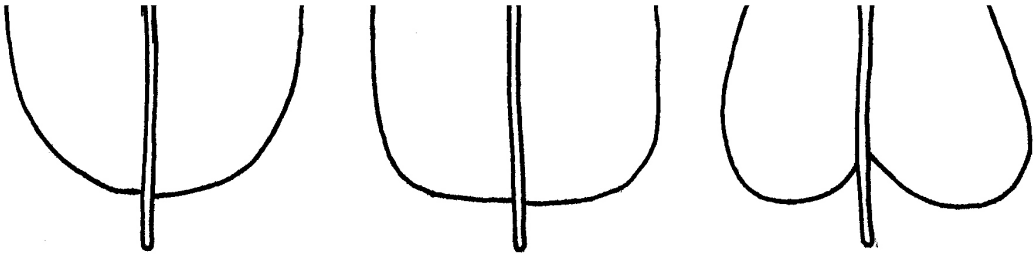
Ad. 8: Leaf blade: shape of apex

1
acute

2
obtuse

3
rounded

Ad. 9: Leaf blade: shape of base

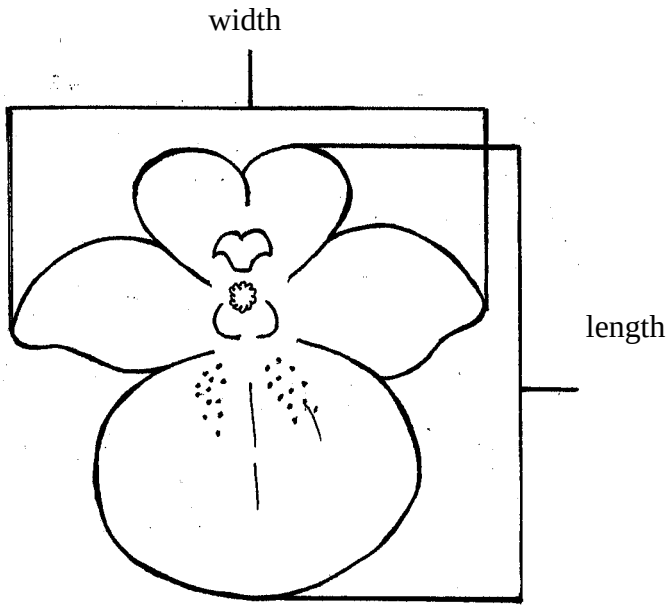


1
rounded

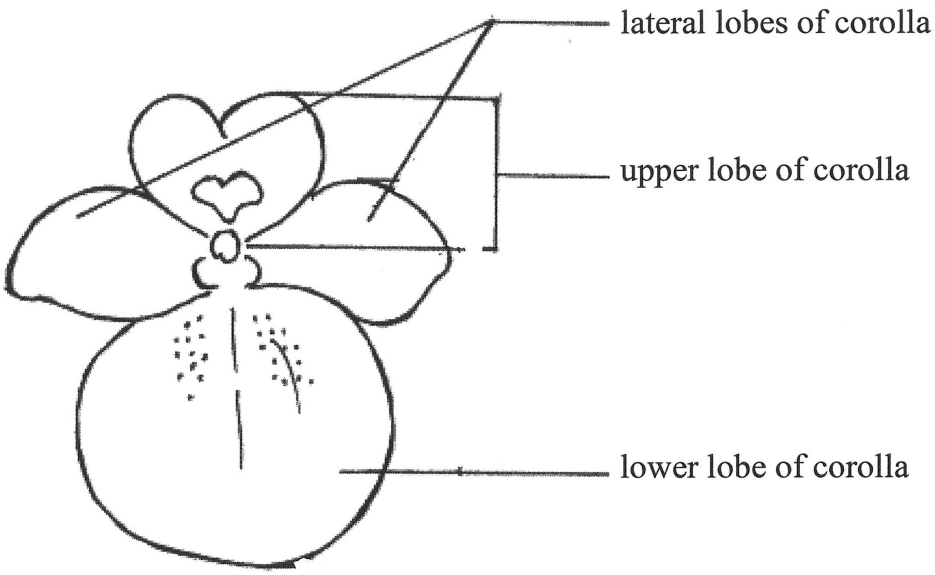
2
truncate

3
cordate

Ad. 18: Corolla: length
Ad. 19: Corolla: width

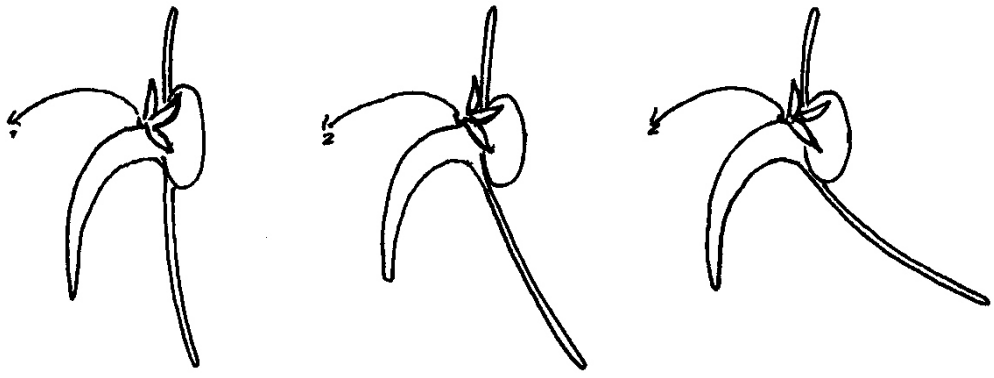


Ad. 21: Corolla: reflexing of lateral lobes
Ad. 22: Corolla: length in relation to width



Ad. 23: Corolla: lower lobe: incurving

Observations should be made on the corolla in side view.



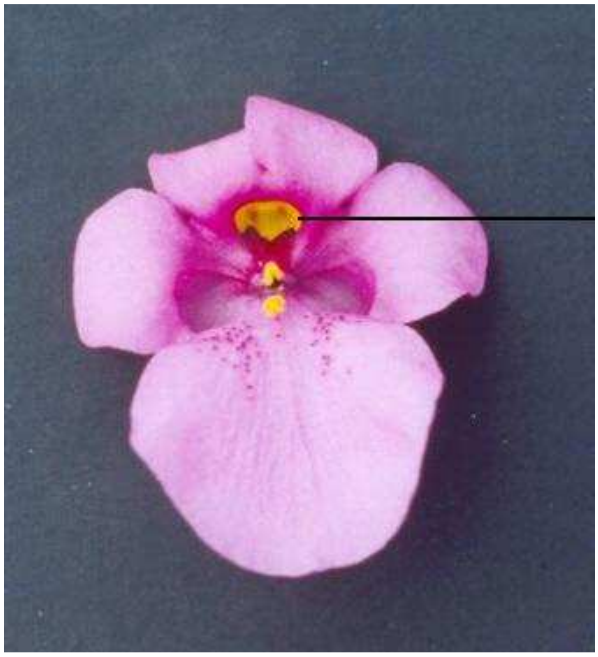
1	2	3
absent or weak	medium	strong

Ad. 25: Corolla: lower lobe: presence of trichomal elaiophores

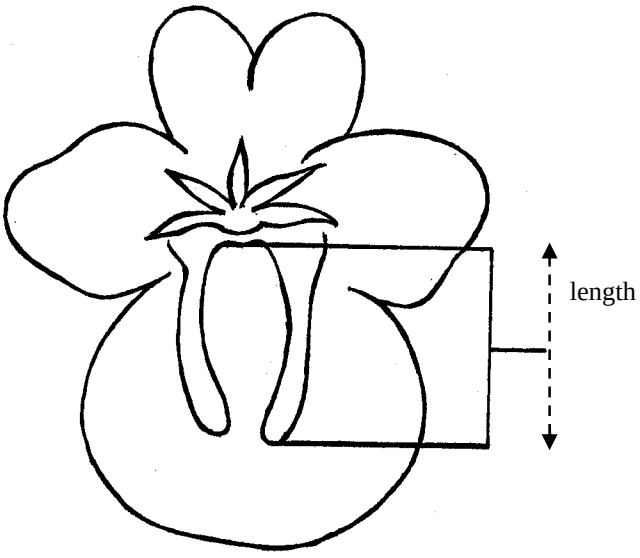
Trichomal elaiophores are floral glands that actively secrete oil to attract pollinating bees. They consist of many glandular trichomes, or outgrowths from the epidermis of the flower (Rasmussen 1999). In Diascia, trichomal elaiophores are positioned within the double spurs and may or may not be present on the inner side of the lower lobe of the corolla.

The observation of this characteristic should be made exclusively on the lower lobe and not on any other part of the corolla.

Ad. 27: Corolla window: colour



Ad. 28: Spur: length

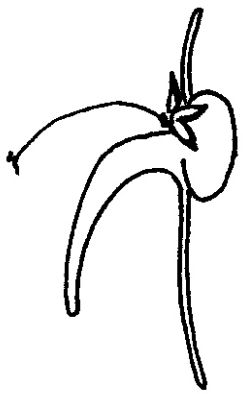


Ad. 29: Spur: colour

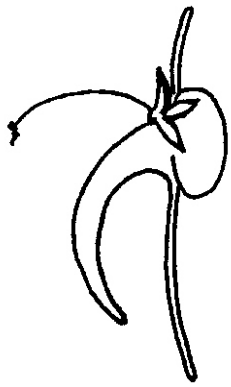
Observations should be made on the middle third of a spur.

Ad. 30: Spur: curvature

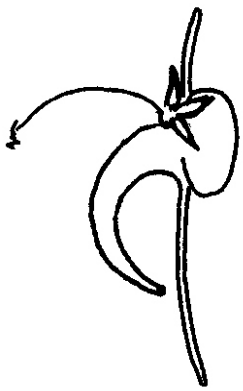
Observations should be made on the corolla in side view.



1
absent or weak

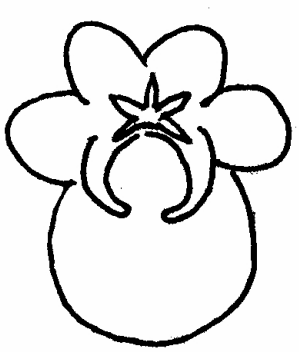


2
medium

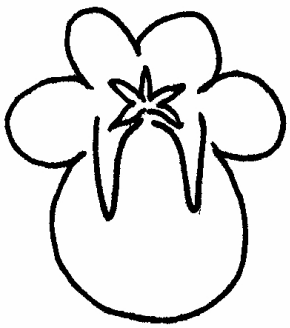


3
strong

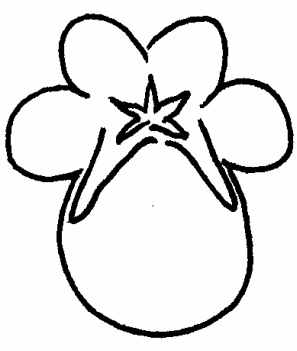
Ad. 31: Spur: attitude of tip



1
pointing inwards



2
pointing downwards



3
pointing outwards

LITERATURE

Beckett, K.A., 1995: The R.H.S. Encyclopedia of House Plants. Colour Library Books Ltd., Godalming, Surrey, US, pp. 206-207.

Hay, R., Beckett K. A. et al., 1978: Reader's Digest Encyclopedia of Garden Plants and Flowers. The Reader's Digest Association Limited, London, GB, p. 228.

Huxley, A. (ed.), Griffiths, M. (ed.), Levy, M. (ed.), 1999: The Royal Horticultural Society Dictionary of Gardening. Volume 2. McMillan Reference Ltd. London, GB, p. 57.

Rasmussen, C., 1999: Coevolution of the oil bee-*Calceolaria* system in the Andes of Peru. Master of Science Thesis, University of Århus, DK, pp. iv + 87.

Staff of the Liberty Hyde Bailey Hortorium, Cornell University, 1976: Hortus Third: A Concise Dictionary of Plants Cultivated in the United States and Canada. MacMillan Publishing Company. New York, New York, US, p. 380.

ANNEX II

The Technical Questionnaire is available on the CPVO website under the following reference: CPVO-TQ/233/1