

TG/SUTERA(proj.1) ORIGINAL: English DATE: August 19, 2005

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

SUTERA

UPOV Code: SUTER

Sutera Roth

JAMESBRITTENIA

UPOV Code: JAMES

Jamesbrittenia O. Kuntze

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Germany

to be considered by the Technical Working Party for Ornamental Plants and Forest Trees at its thirty-eighth session, to be held in Seoul, Republic of Korea, from September 12 to 16, 2005

Alternative Names:*

Botanical name	English	French	German	Spanish
Sutera Roth, Sutera L.	Sutera, , Bacopa	Sutera	Sutera, , Bacopa	Sutera
<i>Jamesbrittenia</i> O. Kuntze	Jamesbrittenia		Jamesbrittenia	

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.]

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1. <u>Subject of these Test Guidelines</u>

These Test Guidelines apply to all varieties of *Sutera* Roth and *Jamesbrittenia* O. Kuntze, of the family *Scrophulariaceae*.

2. <u>Material Required</u>

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 material is to be supplied in the form of rooted cuttings.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

20 rooted cuttings

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

2.5 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. <u>Method of Examination</u>

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. The optimum stage of development for the assessment of the characteristics is at the time of full flowering.

3.3.2 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.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 16 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 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations on single plants should be made on 10 plants or parts taken from each of 10 plants and any other observations made on all plants in the test.

3.6 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.

4.2 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 16 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. <u>Grouping of Varieties and Organization of the Growing Trial</u>

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: variegation (characteristic 11)
- (b) Flower: shape (characteristic 15)
- (c) Flower: width (characteristic 16)
- (d) Corolla lobe: main color of upper side (characteristic 20) with the following groups:
 - Gr. 1: white
 - Gr. 2: yellow
 - Gr. 3: red
 - Gr. 4: purple
 - Gr. 5: violet
 - Gr. 6: blue

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

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

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.

6.3 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 Chapter 6.3
- (a) See Explanations on the Table of Characteristics in Chapter 8.1.
- (+) See Explanations on the Table of Characteristics in Chapter 8.2

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

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	Shoot: length		Trieb: Länge			
QN	very short		sehr kurz			1
	short		kurz			3
	medium		mittel			5
	long		lang			7
	very long		sehr lang			9
2.	Shoot: length of internode (at mi third of shoot)		Trieb: Internodienlä (im mittleren des Triebes)			
QN	very short		sehr kurz			1
	short		kurz			3
	medium		mittel			5
	long		lang			7
	very long		sehr lang			9
3.	Shoot: anthocya coloration (at up third of shoot)	nin oper	Trieb: Anthocyanfär (im oberen Dr des Triebes)			
QN	absent or very we	eak	fehlend oder se gering	hr		1
	weak		gering			3
	medium		mittel			5
	strong		stark			7
	very strong		sehr stark			9

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
4.		<u>Only varieties with</u> <u>petiole:</u> Petiole: length		<u>Nur Sorten m</u> <u>Blattstiel:</u> Bla Länge	<u>it</u> ittstiel:		
QN	(a)	short		kurz			3
		medium		mittel			5
		long		lang			7
5. (*) (+)		Leaf blade: length		Blattspreite: I	Jänge		
QN	(a)	very short		sehr kurz			1
		short		kurz			3
		medium		mittel			5
		long		lang			7
		very long		sehr lang			9
6. (*) (+)		Leaf blade: width		Blattspreite: I	Breite		
QN	(a)	very narrow		sehr schmal			1
		narrow		schmal			3
		medium		mittel			5
		broad		breit			7
		very broad		sehr breit			9
7. (*)		Leaf blade: type		Blattspreite: 7	Гур		
QL	(a)	simple		einfach			1
		pinnate		zusammengese	tzt		2

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
8. (*) (+)		<u>Only varieties with</u> <u>simple leaves:</u> Leaf blade: shape		<u>Nur Sorten mit</u> <u>einfachen Blättern:</u> Blattspreite: Form			
PQ	(a)	linear		linear			1
		deltoid		deltaförmig			2
		ovate		eiförmig			3
		elliptic		elliptisch			4
9.		Leaf blade: depth of incisions of margin in relation to leaf size	f	Blattspreite: Tiefe der Randeinschnitte im Verhältnis zur Blattgröße	2		
QN	(a)	very shallow		sehr flach			1
		shallow		flach			3
		medium		mittel			5
		deep		tief			7
10. (+)		Leaf blade: type of incisions of margin		Blattspreite: Art der Randeinschnitte	r		
PQ	(a)	dentate		gezähnt			1
		serrate		gesägt			2
		crenate		gekerbt			3
		sinuate		gebuchtet			4
11. (*)		Leaf blade: variegation		Blattspreite: Panaschierung			
QL	(a)	absent		fehlend			1
		present		vorhanden			9

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
12. (*)		<u>Only varieties with</u> <u>variegation:</u> Leaf blade: main color of upper side	2	<u>Nur Sorten mit</u> <u>Panschierung:</u> Blattspreite: Hauptfarbe der Oberseite			
PQ	(a)	white		weiß			1
		yellow		gelb			2
		light green		hellgrün			3
		medium green		mittelgrün			4
		dark green		dunkelgrün			5
13. (*)		<u>Only varieties with</u> <u>variegation:</u> Leaf blade: secondary color of upper side		<u>Nur Sorten mit</u> <u>Panschierung:</u> Blattspreite: Sekundärfarbe de Oberseite	er		
PQ	(a)	white		weiß			1
		yellow		gelb			2
		light green		hellgrün			3
		medium green		mittelgrün			4
		dark green		dunkelgrün			5
14. (*)		<u>Only varieties</u> <u>without variegation</u> Leaf blade: intensity of green color of upper side	<u>-</u> Y	<u>Nur Sorten ohne</u> <u>Panaschierung:</u> Blattspreite: Intensität der Grünfärbung der Oberseite			
QN	(a)	light		hell			3
		medium		mittel			5
		dark		dunkel			7
15. (*) (+)		Flower: shape		Blüte: Form			
<mark>QL</mark>		circular		kreisförmig			1
		oblong		länglich			2

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	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
16. (*) (+)	Flower: width		Blüte: Breite			
QN	narrow		schmal			3
	medium		mittel			5
	broad		breit			7
17. (+)	Corolla lobe: width		Kronzipfel: Brei	te		
QN	narrow		schmal			3
	medium		mittel			5
	broad		breit			7
18. (+)	Corolla lobe: shape of apex		Kronzipfel: Forr der Spitze	n		
<mark>QL</mark>	rounded		rundlich			1
	retuse		eingedrückt			2
19. (*)	Corolla lobe: number of colors of upper side (excluding corolla tube)		Kronzipfel: Anz Farben der Oberseite (ohne Kronröhre)	ahl		
PQ	one		eine			1
	two		zwei			2
	more than two		mehr als zwei			3
20. (*)	Corolla lobe: main color of upper side		Kronzipfel: Hauptfarbe der Oberseite			
PQ	RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angebe	n)		
21. (*)	Only varieties with multicolored corolla lobes: Corolla lobe: secondary color of upper side		<u>Nur Sorten mit</u> <u>mehrfarbigen</u> <u>Kronzipfeln:</u> Kronzipfel: Sekundärfarbe d Oberseite	ler		
PQ	RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeber	n)		

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		English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
22. (*)	VG	Corolla tube: main color of inner side		Kronröhre: Hauptfarbe der Innenseite			
PQ		RHS Colour Chart (indicate reference number)		RHS-Farbkarte (Nummer angeben)			

- 8. <u>Explanations on the Table of Characteristics</u>
- 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) Observations on the leaf should be made on the fully developed <u>basal</u> leaf (leaf located at the base of the shoot).

8.2 Explanations for individual characteristics

Ad. 5: Leaf blade: length

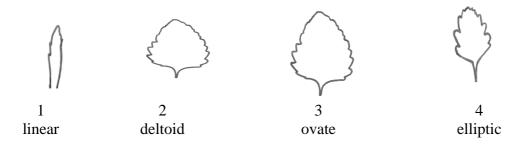
Ad. 6: Leaf blade: width



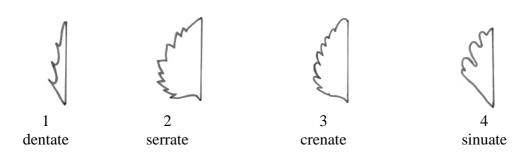
Leaf blade: length

Leaf blade: width

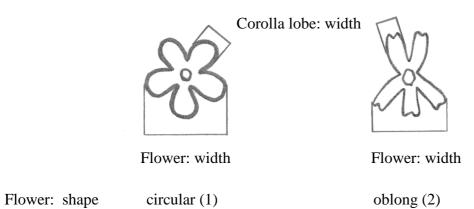
Ad. 8: Only varieties with simple leaves: Leaf blade: shape



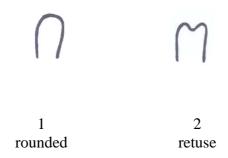
Ad. 10: Leaf blade: type of incisions of margin



Ad. 15: Flower: shape Ad. 16: Flower: width Ad. 17: Corolla lobe: width



Ad. 18: Corolla lobe: shape of apex



9. <u>Literature</u>

Hilliard, O.M. , 1994: The Manuleae. A Tribe of Scrophulariaceae, Edinburgh University Press

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10. <u>Technical Questionnaire</u>

TECHNICAL QUESTIONNAIR	E	Page {x} of {y}	Reference Number:
			Application date: (not to be filled in by the applicant)
		NICAL QUESTIONN tion with an applicatio	VAIRE n for plant breeders' rights
1. Subject of the Technical Qu	esti	ionnaire	
1.1 Genus 1.2 Species Botanical name (please complete) Common name	Sut	era Roth.	
2.1 Genus 2.2 Species Botanical name (please complete) Common name	Jan	nesbrittenia O. Kuntze	e []
2. Applicant			
Name Address			
Telephone No.			
Fax No.			
E-mail address			
Breeder (if different from a	opli	cant)	
l			

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TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
3. Proposed denomination and br	eeder's reference	
Proposed denomination (if available)		
Breeder's reference		
[#] 4. Information on the breeding sch	neme and propagation of	of the variety
4.1 Breeding scheme		
Variety resulting from:		
4.1.1 Crossing		
(a) controlled cross		[]
(please state partially known) (b) partially known	cross	[]
(please state kn (c) totally unknown	own parent variety(ies) n cross)) []
4.1.2 Mutation (please state parent)	variety)	[]
4.1.3 Discovery (please state where,	when and how develop	[] ped)
4.1.4 Other (please provide deta	uils)	[]
4.2 Method of propagating the	e variety	
4.2.1 Vegetative propag	ation	
 (a) cuttings (b) <i>in vitro</i> prop (c) other (state r 	-	[] [] []
4.2.2 Seed		[]
4.2.3 Other (please provide de	tails)	[]

 $^{^{*}}$ Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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TECHNICAL QUESTIONNAIRE Reference Number: Page $\{x\}$ of $\{y\}$ 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 5.2 Leaf blade: length (5) 1[] very short short 3[] medium 5[] 7[] long very long 9[] 5.3 Leaf blade: width (6) very narrow 1[] 3[] narrow medium 5[] broad 7[] very broad 9[] 5.1 Leaf blade: variegation (11) absent 1[] 9[] present 5.4 Flower: shape (15) circular 1[] oblong 2[..]

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TECI	HNICAL QUESTIONNAIRE Page {x} of {y}	Reference Number:	
	Characteristics	Example Varieties	Note
5.5 (16)	Flower: width		
	very narrow		1[]
	narrow		3[]
	medium		5[]
	broad		7[]
	very broad		9[]
5.6 (19)	Corolla lobe: number of colors of upper side (excluding corolla tube)	5	
	one		1[]
	two		2[]
	more than two		3[]
5.7i (20)	Corolla lobe: main color of upper side		
	RHS Colour Chart (indicate reference number)		
5.7ii (20)	Corolla lobe: main color of upper side		
	white		1[]
	yellow		2[]
	red		3[]
	purple		4[]
	violet		5[]
	blue		6[]
	other color (indicate which)		

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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.

Denomin	nation(s) of	Characteristic(s) in	Describe the expression	Describe the expression
variety(ies	s) similar to	which your candidate	of the characteristic(s)	of the characteristic(s)
your candi	idate variety	variety differs from	for the similar	for your candidate
		the similar variety(ies)	variety(ies)	variety
(Example)		Leaf blade: width	broad	medium

[#]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 photograph of the variety should accompany the Technical Questionnaire.

[#] 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:				
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	(b) Has such authorization been obtained?					
Yes []	No []					
If the answer to (b) is yes, please attach a copy of the authorization.						
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. vi	rus, bacteria, phytoplas	ma) Yes [] No []				
(b) Chemical treatment (e.g	b) Chemical treatment (e.g. growth retardant, pesticide)					
(c) Tissue culture	(c) Tissue culture					
(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						