

DESCRIPTORS FOR *XANTHOSOMA*

IBPGR



INTERNATIONAL
BOARD FOR
PLANT
GENETIC
RESOURCES

**DESCRIPTORS
FOR
*XANTHOSOMA***

IBPGR
ROME 1989

The International Board for Plant Genetic Resources (IBPGR) is an autonomous international scientific organization under the aegis of the Consultative Group on International Agricultural Research (CGIAR). IBPGR was established by the CGIAR in 1974. The basic function of IBPGR is to promote and coordinate the collecting, conservation, documentation, evaluation and use of plant genetic resources and thereby contribute to raising the standard of living and welfare of people throughout the world. Financial support for the core programme is provided by the Governments of Australia, Austria, Belgium, Canada, China, Denmark, France, FRG, India, Italy, Japan, the Netherlands, Norway, Spain, Sweden, Switzerland, the UK and the USA, as well as the United Nations Environment Programme and the World Bank

Citation:

IBPGR. 1989. Descriptors for *Xanthosoma*. International Board for Plant Genetic Resources, Rome

ISBN 92-9043-132-6

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PREFACE

This descriptor list was prepared in an IBPGR standard format by Ms. Sue Thompson, Carnegie Museum of Natural History, Section of Botany, Pittsburgh, Pennsylvania, USA and subsequently reviewed by scientists working on Xanthosoma (see Appendix I).

IBPGR encourages the collection of data on the first four categories of this list: 1. Accession; 2. Collection; 3. and 4. Characterization and preliminary evaluation. IBPGR endorses the information in categories 1-4 as the minimum that ideally should be available for any one accession. Other descriptors are given in categories 5 onwards that will enable the simple encoding of further characterization and evaluation data and which can serve as examples for the creation of additional descriptors in the IBPGR form by any user.

Although the suggested coding should not be regarded as the definitive scheme, this format has the full backing of IBPGR and is promoted worldwide. The descriptor list given here provides an international format and thereby produces a universally understood 'language' for all plant genetic resources data. The adoption of this scheme for all data encoding, or at least the production of a transformation method to convert other schemes to the IBPGR format, will produce a rapid, reliable and efficient means for information storage, retrieval and communication. This will greatly assist the utilization of germplasm throughout the international plant genetic resources network. It is recommended, therefore, that information should be produced by closely following the descriptor list with regard to: ordering and numbering descriptors; using the descriptors specified; and using the descriptor states recommended.

Any suggestions for modifications will be welcomed by IBPGR Headquarters, Rome.

DESCRIPTOR LIST FOR *XANTHOSOMA*

IBPGR uses the following definitions in genetic resources documentation:

- (i) passport (accession identifiers and information recorded by collectors);
- (ii) characterization (consists of recording those characters which are highly heritable, can be easily seen by the eye and are expressed in all environments);
- (iii) preliminary evaluation (consists of recording a limited number of additional traits thought desirable by a consensus of users of the particular crop).

Characterization and preliminary evaluation will be the responsibility of the curators, while further characterization and evaluation should be carried out by the plant breeder. The data from further evaluation should be fed back to the curator who will maintain a data file.

The following internationally accepted norms for the scoring or coding of descriptor states should be followed as indicated below:

- (a) measurements are made according to the SI system. The units to be applied are given in square brackets following the descriptor;
- (b) many descriptors which are continuously variable are recorded on a 1-9 scale. The authors of this list have sometimes described only a selection of the states, e.g. 3, 5 and 7 for such descriptors. Where this has occurred the full range of codes is available for use by extension of the codes given or by interpolation between them - e.g. in Section 8 (Pest and disease susceptibility) 1 = extremely low susceptibility and 8 = high to extremely high susceptibility;
- (c) presence/absence of characters are scored as + (present) and 0 (absent);
- (d) for descriptors which are not generally uniform throughout the accession (e.g. mixed collection, genetic segregation) mean and standard deviation could be reported where the descriptor is continuous or mean and 'x' where the descriptor is discontinuous;

- (e) when the descriptor is inapplicable, '0' is used as the descriptor value, e.g. if an accession does not form flowers, 0 would be scored for the following descriptor

Flower colour

- | | |
|---|--------|
| 1 | White |
| 2 | Yellow |
| 3 | Red |
| 4 | Purple |

- (f) blanks are used for information not yet available;
- (g) standard colour charts, e.g. Royal Horticultural Society Colour Chart, Methuen Handbook of Colour, Munsell Color Charts for Plant Tissues are strongly recommended for all ungraded colour characters (the precise chart used should be specified in the NOTES descriptor, 11);
- (h) dates should be expressed numerically in the format DDMMYYYY, where

DD - 2 digits to represent the day
MM - 2 digits to represent the month
YYYY - 4 digits to represent the year

PASSPORT

1. ACCESSION DATA

1.1 ACCESSION NUMBER

This number serves as a unique identifier for accessions and is assigned by the curator when an accession is entered into his collection. Once assigned this number should never be reassigned to another accession in the collection. Even if an accession is lost, its assigned number is still not available for re-use. Letters should occur before the number to identify the genebank or national system (e.g. MG indicates an accession comes from the genebank at Bari, Italy; PI indicates an accession within the USA system)

1.2 DONOR NAME

Name of institution or individual responsible for donating the germplasm

1.3 DONOR IDENTIFICATION NUMBER

Number assigned to accession by the donor

1.4 OTHER NUMBERS ASSOCIATED WITH THE ACCESSION

(Other numbers can be added as 1.4.3 etc.)

Any other identification number known to exist in other collections for this accession, e.g. USDA Plant Inventory number (not collection number, see 2.1)

1.4.1 Other number 1

1.4.2 Other number 2

1.5 SCIENTIFIC NAME

1.5.1 Genus

1.5.2 Species

1.5.3 Subspecies or Variety

1.6 PEDIGREE/CULTIVAR NAME

Nomenclature and designations assigned to breeder's material

1.7 ACQUISITION DATE

The date on which the accession entered the collection

1.8 DATE OF LAST REGENERATION OR MULTIPLICATION

1.9 ACCESSION SIZE

Approximate number in each category:

1.9.1 Living plants

1.9.2 Tissue culture

1.9.3 Corms/cormels in storage

1.9.4 Seeds

1.10 NUMBER OF TIMES ACCESSION REGENERATED

Number of regenerations or multiplications since original collection

1.11 TYPE OF MAINTENANCE

- 1 Vegetative
- 2 Tissue culture
- 3 Seeds

2. COLLECTION DATA

2.1 COLLECTOR'S NUMBER

Original number assigned by collector of the sample normally composed of the last name of the collector(s) followed by a number. This item is essential for identifying duplicates held in different collections and should always accompany sub-samples wherever they are sent

2.2 COLLECTING INSTITUTE

Institute or person collecting/sponsoring the original sample

2.3 DATE OF COLLECTION OF ORIGINAL SAMPLE

2.4 COUNTRY OF COLLECTION OR COUNTRY WHERE CULTIVAR/
VARIETY BRED

Use the 3 letter abbreviations supported by the Statistical Office of the United Nations. Copies of these abbreviations are available from the

IBPGR Headquarters and have been published in the FAO/IBPGR Plant Genetic Resources Newsletter number 49

2.5 PROVINCE/STATE

Name of the administrative subdivision of the country in which the sample was collected

2.6 COUNTRY/DEPARTMENT

When the Province/State is a large area of land, the next largest subdivision should be included

2.7 LOCATION OF COLLECTION SITE

Number of kilometres and direction from nearest town, village, or map grid reference (e.g. TIMBUKTU 7S means 7 km south of Timbuktu)

2.8 LATITUDE OF COLLECTION SITE

Degrees and minutes followed by N (north) or S (south), e.g. 1030S

2.9 LONGITUDE OF COLLECTION SITE

Degrees and minutes followed by E (east) or W (west), e.g. 7625W

2.10 ALTITUDE OF COLLECTION SITE [m]

Elevation above sea level

2.11 COLLECTION SOURCE

- 1 Wild - Primary forest
- 2 Wild - Secondary forest
- 3 Roadside
- 4 Farm land
- 5 Shifting cultivation
- 6 Backyard garden
- 7 Farm store
- 8 Village market
- 9 Commercial market
- 10 Ornamental
- 11 Other (specify in 2.23, OTHER NOTES FROM COLLECTOR)

2.12 STATUS OF SAMPLE

- 1 Wild
- 2 Weedy
- 3 Breeder's line
- 4 Primitive cultivar/landrace
- 5 Advanced cultivar (bred)
- 6 Other (specify in 2.23, OTHER NOTES FROM COLLECTOR)

2.13 DISTRIBUTION

The general distribution of the accession in the area of its collection. Scored on a scale of 1-9, where

- 1 Rare
- 3 Limited
- 7 Widely distributed, but scattered small populations
- 9 Extensive stands of large populations

2.14 GROWING CONDITIONS - SUBSTRATE

- 1 Wet land (flooded)
- 2 Lowland, not flooded
- 3 Swamp
- 4 Upland - add approximate slope of terrain

2.15 GROWING CONDITIONS - CANOPY

Scored on a scale 1-9, where

- 1 Deep shade
- 5 Partial sun
- 9 Full sun

2.16 SOIL TYPE

- 1 Clay
- 2 Sand
- 3 Rocky
- 4 Other (specify in 2.23, OTHER NOTES FROM COLLECTOR)

2.17 SOIL pH

2.18 LOCAL HUMAN INTERACTIONS

2.18.1 Local/Vernacular name(s)

Name(s) given to the plant (wild, weedy, or cultivar) by the people at the site where the sample was collected. Where necessary the ethnic group/language should be stated. Informant variability in local names is not uncommon and should be noted

NOTE: This information should be elicited from informants in the field at the time of collection and not added from other sources (e.g. literature, non-native informants) at a later date

2.18.2 Local use

- 1 No use
- 2 Food
- 3 Medicinal/'witchcraft'
- 4 Material goods
- 5 Other (specify in 2.23, OTHERS NOTES FROM COLLECTOR)

2.18.3 Importance as food

- 1 Eaten daily
- 2 Eaten 2-3 times/week
- 3 Eaten 1 time/week
- 4 Eaten < 3 times/month
- 5 Emergency food only

2.18.4 Palatability

Local preference on a scale of 1-9, where

- 1 Inedible
- 5 Palatable
- 9 Delicious

2.18.5 Edible petiole

- 0 No
- + Yes

2.18.6 Edible leaves

- 0 No
- + Yes

2.18.7 Present status

(At the time of collecting)

- 1 Acreage decreasing
- 2 Acreage static
- 3 Acreage increasing
- 4 Non-cultivated forms

2.19 NUMBER OF PLANTS SAMPLED

Approximate number of plants collected in the field to produce this accession

2.20 PHOTOGRAPH/FIELD SKETCH

Was a photograph taken or field sketch made of the accession or environment at collection? If yes, give the name of the institution or private collection where the photograph/sketch is deposited in the OTHER NOTES FROM COLLECTOR descriptor, 2.23

- 0 No
- + Yes

2.21 TYPE OF SAMPLE

- 1 Vegetative - underground (corm, cormel)
- 2 Vegetative - aboveground (aerial bulbils, portions of stem)
- 3 Seed
- 4 Both vegetative and seed

2.22 TYPES OF SPECIMENS PREPARED AT TIME OF COLLECTION

2.22.1 Herbarium specimens

- 1 Leaf
- 2 Inflorescence
- 3 Infructescence
- 4 Tuber/stem

2.22.2 Specimens preserved in FAA, ethanol, etc.

- 1 Inflorescence
- 2 Infructescence
- 3 Germinating seed
- 4 Pollen
- 5 Root tips

2.22.3 Institution(s) where specimen(s) deposited

Use the standard herbarium abbreviations listed in Index Herbariorum

2.23 OTHER NOTES FROM COLLECTOR

Give additional information made by the collector where the descriptor state is noted as 'Other' as, for example in descriptors 2.11, 2.12, etc. Also include here any further relevant information, such as notes on ecology, taken at the time of collection. For cultivated crops, cultivation practices such as irrigation, season of planting, etc. should be recorded

CHARACTERIZATION AND PRELIMINARY EVALUATION

3. SITE DATA

- 3.1 COUNTRY OF CHARACTERIZATION AND PRELIMINARY EVALUATION
- 3.2 SITE (RESEARCH INSTITUTE)
- 3.3 NAME OF PERSON(S) IN CHARGE OF CHARACTERIZATION
- 3.4 PLANTING DATE OF ACCESSION BEING CHARACTERIZED
- 3.5 DATE OF CHARACTERIZATION AND PRELIMINARY EVALUATION

4. PLANT DATA

If possible, descriptors should be evaluated for mature flowering plants.

4.1 VEGETATIVE

4.1.1 Growth habit

See Fig. 1

- 1 Acaulescent
- 2 Erect aboveground stem
- 3 Reclining aboveground stem

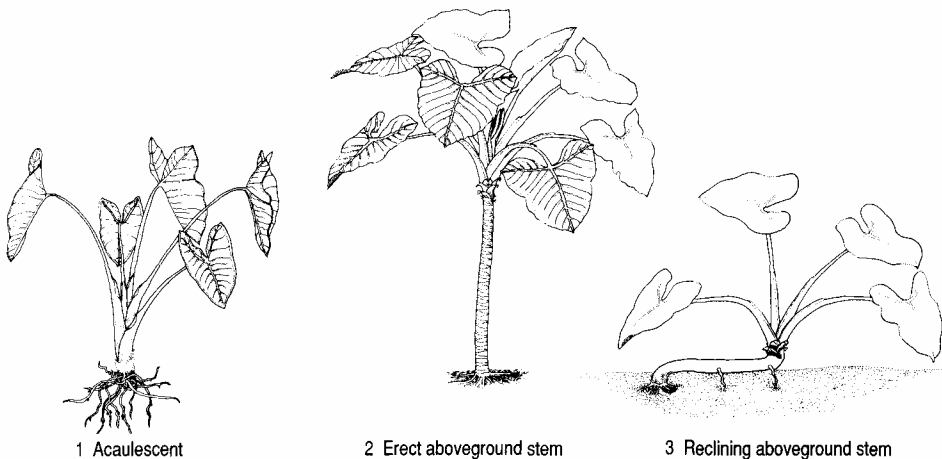


Fig. 1. Growth habit

- 4.1.2 Length/height of aboveground stem [cm]
- 4.1.3 Circumference of aboveground stem [cm]
- 4.1.4 Interior colour of aboveground stem
- 1 White
- 2 Yellow
- 3 Orange
- 4 Pink (or pale red)
- 5 Purple
- 4.1.5 Main axillary buds (large 'eyes') on aboveground stem
- 0 Absent
- + Present
- 4.1.6 Secondary axillary buds (small 'eyes') on aboveground stem
- 0 Absent
- + Present
- 4.1.6.1 Number of secondary axillary buds
- 4.1.6.2 Distance from main bud [mm]
- 4.1.7 Bulbils in leaf axils
- 0 Absent
- + Present
- 4.1.8 Bulbils along stem
- 0 Absent
- + Present
- 4.1.9 Overall plant height [cm]
- Overall height of plant from ground level to top of plant

4.1.10 Petiole attachment

see Fig. 2

- 1 Peltate
- 2 Subpeltate
- 3 Nonpeltate

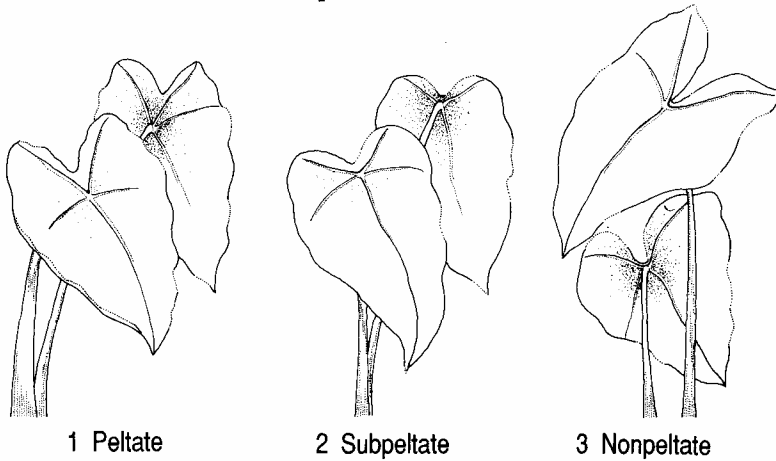


Fig. 2. Petiole attachment

4.1.11 Lamina orientation

See Fig. 3

- 1 In one plane - apex pointing upward ('erect')
- 2 In one plane - apex pointing downward ('droopy')
- 3 3-dimensional ('cup-shaped')

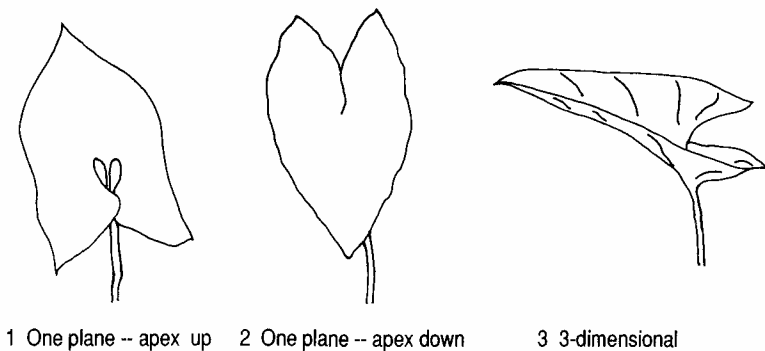


Fig. 3. Lamina orientation

4.1.12 Leaf margin

See Fig. 4

- 1 Entire, smooth (complete 4.1.13, skip 4.1.14)
- 2 Entire, undulate (complete 4.1.13, skip 4.1.14)
- 3 Lobed, partly divided (skip 4.1.13, complete 4.1.14)
- 4 Divided to or almost to base (skip 4.1.13, complete 4.1.14)

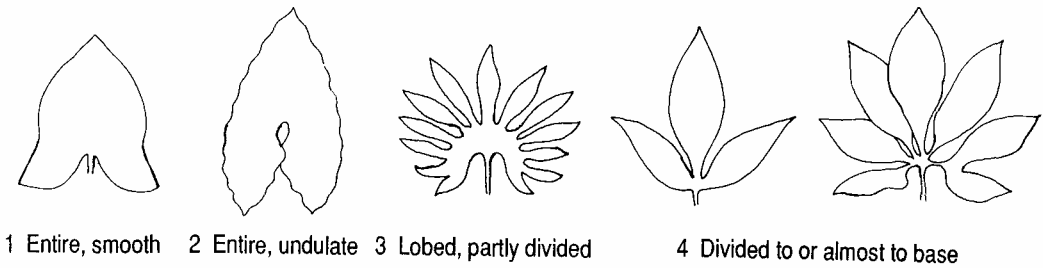


Fig. 4. Leaf margin

4.1.13 Leaf shape (for plants with entire leaves)

See Fig. 5

- 1 No basal lobes
- 2 Hastate (basal lobes flared)
- 3 Sagittate, basal lobes $< 1/8$ th length of leaf
- 4 Sagittate, basal lobes $1/8$ th - $1/4$ th length of leaf
- 5 Sagittate, basal lobes $> 1/4$ th length of leaf

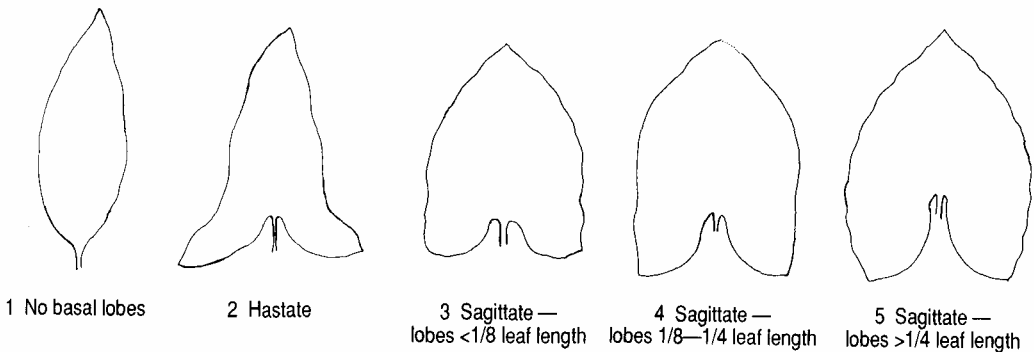


Fig. 5. Leaf shape (for plants with entire leaves)

4.1.14 Leaf shape (for plants with divided leaves)

See Fig. 6

- 1 3-lobed
- 2 4-6-lobed
- 3 7-9-lobed
- 4 >9-lobed

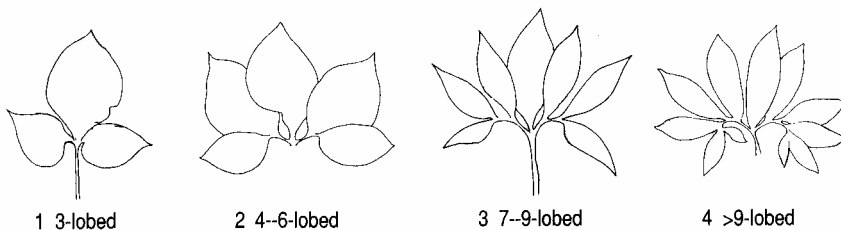


Fig. 6 . Leaf shape (for plants with divided leaves)

4.1.15 Length/breadth ratio of lamina [cm]

Measured at maximum width and length of lamina

4.1.16 Leaf margin colour

- 1 Concolorous (green) to the edge
- 2 Clear edge
- 3 Purple/red edge
- 4 Pale yellow/creamy

4.1.17 Leaf sinus denuding

See Fig. 7; also Fig. 12

- 0 None
- 1 Slightly (<5 mm)
- 2 Denuded (5 mm - several cm)
- 3 Mixed (some leaves denuded, others not)

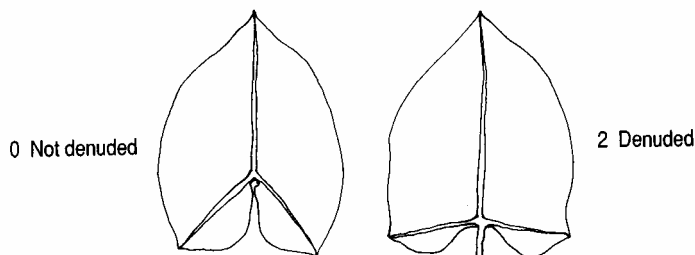


Fig. 7. Leaf sinus denuding

4.1.18 Leaf surface glossy (shining)

Record 0 (absent) or + (present) for each

4.1.18.1 Upper surface

4.1.18.2 Lower surface

4.1.19 Leaf surface glaucous

Record 0 (absent) or + (present) for each

4.1.19.1 Upper surface

4.1.19.2 Lower surface

4.1.20 Colour of upper leaf surface

1 Light green

2 Medium green

3 Dark green

4 Reddish/purplish green

5 Other (specify in the NOTES descriptor, 11)

4.1.21 Colour of lower leaf surface

1 Light green

2 Medium green

3 Dark green

4 Reddish/purplish green

5 Other (specify in the NOTES descriptor, 11)

4.1.22 Leaf variegation

0 Absent

+ Present

4.1.23 Leaf pubescence

Scored on a scale of 0-9, where

0 Absent

5 Pubescent

9 Densely pubescent

4.1.24 Midrib and primary lateral veins in cross-section

- 1 Raised on upper leaf surface, but not lower surface
- 2 Raised on lower leaf surface, but not upper surface
- 3 Raised on both upper and lower leaf surfaces
- 4 Impressed into upper leaf surface

4.1.25 Petiole length [cm]

Length of longest petiole from the basal zone of the plant to the point of attachment to the leaf lamina

4.1.26 Petiole colour (upper 2/3rds)

- 1 Light green
- 2 Green
- 3 Red/purple
- 4 Green streaked with red/purple

4.1.27 Petiole colour (lower 1/3rd)

- 1 Light green
- 2 Green
- 3 Red/purple
- 4 Green streaked with red/purple

4.1.28 Petiole surface glaucous

- 0 No
- + Yes

4.1.29 Petiole sheath length

See Fig. 8

- 1 Sheathed <1/3rd the total length of petiole
- 2 Sheathed 1/3rd - 2/3rds the length of petiole
- 3 Sheathed >2/3rds the length of petiole

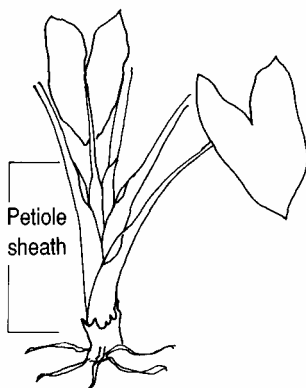


Fig. 8. Petiole sheath length

4.1.30 Colour of edge of petiole sheath

- 1 Same as rest of petiole and sheath
- 2 Lighter than rest of petiole and sheath
- 3 Darker than rest of petiole and sheath
- 4 Pink/red/purple

4.2 INFLORESCENCE AND FRUIT

See Fig. 9

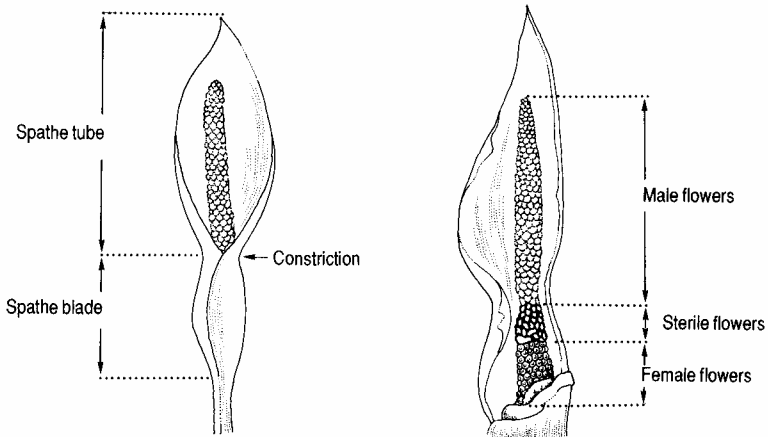


Fig. 9. Inflorescence

4.2.1 Number of inflorescences per leaf axil4.2.2 Length of peduncle [cm]4.2.3 Shape of peduncle in cross-section

See Fig. 10

- 1 Oval
- 2 Terete
- 3 Flattened in one plane

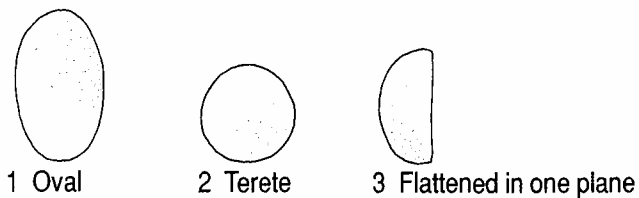


Fig. 10. Shape of peduncle in cross-section

4.2.4	<u>Length of spathe [cm]</u>	4.2.11
4.2.5	<u>Colour of spathe tube on outside</u>	4.2.12
	1 Green	
	2 Red/purple	
	3 Other (specify in the NOTES descriptor, 11)	4.2.13
4.2.6	<u>Colour of spathe tube on inside</u>	
	1 Green	
	2 White (or very light green)	
	3 Red/purple entirely	
	4 Red/purple partially	4.2.14
	5 Other (specify in the NOTES descriptor, 11)	
4.2.7	<u>Colour of spathe blade on outside</u>	
	1 White	
	2 Pink	
	3 Yellow	4.2.15
	4 Light green	
	5 Other (specify in the NOTES descriptor, 11)	
4.2.8	<u>Colour of spathe blade on inside</u>	
	1 White	4.2.16
	2 Pink	
	3 Yellow	
	4 Light green	
	5 Other (specify in the NOTES descriptor, 11)	
4.2.9	<u>Colour at spathe constriction on inside</u>	4.2.17
	1 Green	4.2.18
	2 Red/purple	
	3 Same as spathe blade	4.2.19
	4 Same as spathe tube	4.2.20
4.2.10	<u>Apex of spathe</u>	
	1 Blunt	
	2 Acuminate	
	3 Tapering	
	4 Other (specify in the NOTES descriptor, 11)	

- 4.2.11 Length of spadix [cm]
- 4.2.12 Spadix stipitate
- 0 Stipe absent
+ Stipe present
- 4.2.13 Apex of spadix
- 1 Acuminate
2 Blunt
3 Tapering
- 4.2.14 Colour of female flowers
- 1 White or cream white
2 Yellow
3 Bright orange
4 Other (specify in the NOTES descriptor, 11)
- 4.2.15 Colour of sterile flowers
- 1 White or cream white
2 Pink
3 Other (specify in the NOTES descriptor, 11)
- 4.2.16 Colour of male flowers
- 1 White or cream white
2 Pink
3 Other (specify in the NOTES descriptor, 11)
- 4.2.17 Length of female part of the spadix [cm]
- 4.2.18 Length of sterile part of the spadix [cm]
- 4.2.19 Length of male part of the spadix [cm]
- 4.2.20 Infructescence position
- 1 Erect
2 Pendent

- 4.2.21 Length/width ratio of infructescence
- 4.2.22 Length/width ratio of individual fruits
- 4.2.23 Colour of fruits
 - 1 Orange
 - 2 Yellow
 - 3 Red/purple
 - 4 Other (specify in the NOTES descriptor, 11)
- 4.2.24 Total number of fruits

Estimate total number of fruits

4.3 CORMELS

4.3.1 Time to harvest of cormels

- 1 4-6 months (or less)
- 2 7-12 months
- 3 13-17 months
- 4 >18 months

4.3.2 Shape of cormels

See Fig. 11

- 1 Globose
- 2 Ovate
- 3 Cylindrical
- 4 Elliptical
- 5 Mixed (state which of the above)

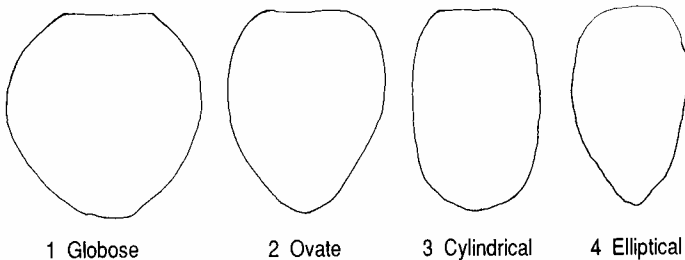


Fig. 11. Shape of cormels

4.3.3 Cormel size (at maturity)

Scored on a scale of 1-9, where

- 3 Small
- 5 Medium
- 7 Large

4.3.4 Exterior colour of cormels

- 1 Light or medium brown
- 2 Dark brown

4.3.5 Interior colour of cormels

- 1 White
- 2 Yellow
- 3 Orange
- 4 Pink (or pale red)
- 5 Purple

4.3.6 Exterior surface of cormels

- 1 Smooth
- 2 Fibrous/rough

4.3.7 Colour of cormel apex

- 1 White
- 2 Pink/red

4.3.8 Position of cormel apex

- 1 Aboveground
- 2 Underground

FURTHER CHARACTERIZATION AND EVALUATION

6.1.6

5. SITE DATA

5.1 COUNTRY OF FURTHER CHARACTERIZATION AND EVALUATION

5.2 SITE (RESEARCH INSTITUTE)

5.3 NAME OF PERSON(S) IN CHARGE OF EVALUATION

6.1.7

5.4 PLANTING DATE OF ACCESSION BEING CHARACTERIZED

5.5 DATE OF FURTHER CHARACTERIZATION AND EVALUATION

6. PLANT DATA

6.1.8

6.1 VEGETATIVE

6.1.1 Stolon formation

0 Absent

+ Present

6.1.9

6.1.2 Rhizome formation

0 Absent

+ Present

6.1.10

6.1.3 Number of suckers6.1.4 Amount of latex

Scored on a scale 0-9, where

0 Absent

9 Abundant

6.1.5 Consistency of latex

Scored on a scale 1-9, where

1 Thin

9 Sticky

6.1.6 Colour of latex

- 1 Clear
- 2 White or cream
- 3 White, immediately discoloring to brown
- 4 Yellow or orange

6.1.7 Plant parts with latex

Record 0 (absent) or + (present) for each

- 6.1.7.1 Stem
- 6.1.7.2 Leaves
- 6.1.7.3 Corms or cormels

6.1.8 Angle of basal vein of leaf from midrib [°]

See Fig. 12

6.1.9 Angle of primary lateral veins of leaf from midrib [°]

See Fig. 12

6.1.10 Number of pairs of primary lateral veins

See Fig. 12

Count the pairs of primary lateral veins, excluding the basal veins

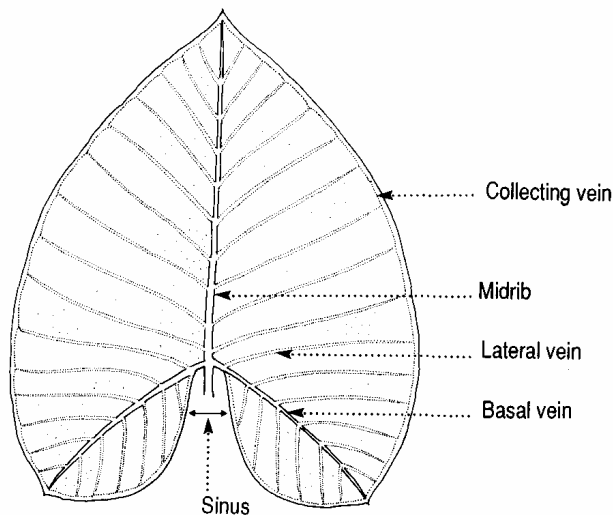


Fig. 12. Leaf venation (see 6.1.8 - 6.1.12)

6.1.11 Position of collecting vein

See Fig. 12

- 1 Equally distant all around leaf margin
- 2 At varying distances from leaf margin

6.1.12 Number of collecting veins

See Fig. 12

- 1 One
- 2 Two
- 3 More than two

6.1.13 Colour of veins on upper leaf surface

- 1 Same colour as lamina
- 2 Lighter green than lamina
- 3 Darker green than lamina
- 4 Red/purple

6.1.14 Colour of veins on lower leaf surface

- 1 Same colour as lamina
- 2 Lighter green than lamina
- 3 Darker green than lamina
- 4 Red/purple

6.1.15 Shape of petiole sheath in cross-section

See Fig. 13

- 1 Closed
- 2 More or less upright
- 3 Outrolled

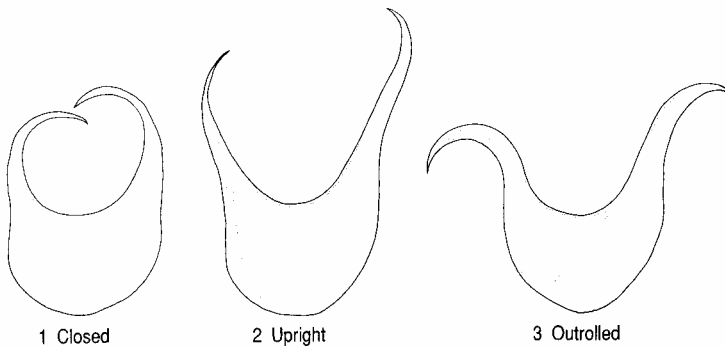


Fig. 13. Shape of petiole sheath in cross-section

6.2 INFLORESCENCE AND FRUIT

6.2.1 Number of rows of male flowers6.2.2 Number of rows of sterile flowers6.2.3 Number of rows of female flowers in front6.2.4 Number of rows of female flowers in back6.2.5 Sterile part of spadix overhanging female part

0 No

+ Yes

6.2.6 Relation of stigmas to each other

1 Coherent

2 Intermediate

3 Separate

6.2.7 Shape of stigma

See Fig. 14

1 Spreading

2 Dome-shaped

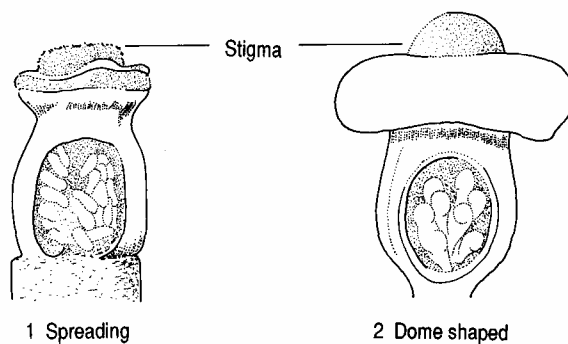


Fig. 14 . Shape of stigma

6.2.8 Number of stamens per male flower

Record average and range

- 6.2.9 Pollen at anthesis
 - 1 Monads
 - 2 Tetrads
- 6.2.10 Pollen stainability in aniline blue [%]
- 6.2.11 Sterile flower at apex of spadix
 - 0 Absent
 - + Present
- 6.2.12 Number of seeds per fruit

Record average and range
- 6.2.13 Seed viability [%]
- 6.3 CORMELS
 - 6.3.1 Number of cormels produced per plant
 - 6.3.2 Cormel length [cm]

Record average and range
 - 6.3.3 Cormel weight [g]

Record average and range
 - 6.3.4 Starch content [%]

On dry weight basis
 - 6.3.5 Dry matter content at short storage for <1 week [%]
 - 6.3.6 Dry matter content after storage for >1 week [%]
 - 6.3.7 Acridity of cormel

Scored on a scale 1-9, where

 - 3 Low acridity
 - 5 Medium acridity
 - 7 High acridity

7. STRESS SUSCEPTIBILITY

Scored on a scale of 1-9, where

- 3 Low susceptibility
- 5 Medium susceptibility
- 7 High susceptibility

- 7.1 LOW TEMPERATURE
- 7.2 HIGH TEMPERATE
- 7.3 DROUGHT
- 7.4 HIGH SOIL MOISTURE
- 7.5 SALINITY
- 7.6 WIND

8. PEST AND DISEASE SUSCEPTIBILITY

Scored on a scale of 1-9, where

- 3 Low susceptibility
- 5 Medium susceptibility
- 7 High susceptibility

- 8.1 INSECTS
 - 8.1.1 Aphids
 - 8.1.2 Lepidoptera
 - 8.1.3 Coleoptera
 - 8.1.4 Mirids
 - 8.1.5 Others (specify in the NOTES descriptor, 11)
- 8.2 NEMATODES
 - 8.2.1 Aphelenchoides spp.
 - 8.2.2 Aphelenchus spp.

- 8.2.3 Criconemella spp.
- 8.2.4 Ditylenchus spp.
- 8.2.5 Helicotylenchus spp.
- 8.2.6 Hoplolaimus spp.
- 8.2.7 Longidorus spp.
- 8.2.8 Meloidogyne spp.
- 8.2.9 Pratylenchus spp.
- 8.2.10 Rotylenchulus spp.
- 8.2.11 Xiphinema spp.
- 8.2.12 Others (specify in the NOTES descriptor, 11)

8.3 FUNGI

- 8.3.1 Botryodiplodia theobromae Corm soft rot
- 8.3.2 Cercospora xanthosomae
- 8.3.3 Cercosporidium spp.
- 8.3.4 Collectotrichum spp. Concentric leaf spot
- 8.3.5 Corticium rolfsii Petiole soft rot
- 8.3.6 Fusarium spp. Storage dry rot
- 8.3.7 Leptosphaerulina trifolii Fungal leaf necrosis
- 8.3.8 Phyllosticta spp.
- 8.3.9 Phytophthora spp. Leaf blight
- 8.3.10 Pythium spp. Soft rot
- 8.3.11 Rhizoctonia spp.

8.3.12 Root rot (mal seco, tannia leaf-burning disease)

Complex of mostly fungal pathogens

8.3.13 Others (specify in the NOTES descriptor, 11)

8.4 BACTERIA

8.4.1 Actinomyces spp.

8.4.2 Erwinia spp.

8.4.3 Xanthomonas spp.

8.4.4 Others (specify in the NOTES descriptor, 11)

8.5 VIRUS

8.5.1 Dasheen mosaic virus

8.5.2 Taro small bacilliform virus

8.5.3 Others (specify in the NOTES descriptor, 11)

9. ALLOENZYME COMPOSITION

This may prove to be a useful tool for identifying duplicate accessions

10. CYTOLOGICAL CHARACTERS AND IDENTIFIED GENES

11. NOTES

Give additional information where the descriptor state is noted as 'Other' as, for example, in descriptors 4.1.20, 4.1.21, 4.2.23, etc. Also include here any other relevant information

APPENDIX I. LIST OF REVIEWERS

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