

Table S1. Overview of the collected *Lavandula* genotypes, the assigned code and acquisition source with IPEN-code or serial number in parentheses when available.

<i>Lavandula</i> genotype	Code	Source of acquisition
Section <i>Lavandula</i>		
<i>L. angustifolia</i>	L16	Bastin Nursery ¹
<i>L. angustifolia</i> 'Arctic Snow'	L19	Bastin Nursery
<i>L. angustifolia</i> 'Nana Alba'	L20	Bastin Nursery
<i>L. angustifolia</i> 'Little Lady'	L21	Bastin Nursery
<i>L. angustifolia</i> 'Elizabeth'	L23	Bastin Nursery
<i>L. angustifolia</i> 'Havanna Dark'	L24	Bastin Nursery
<i>L. angustifolia</i> 'Coconut Ice'	L25	Bastin Nursery
<i>L. angustifolia</i> 'Pacific Blue'	L26	Bastin Nursery
<i>L. angustifolia</i> 'Lavenite Petite'	L32	Bastin Nursery
<i>L. angustifolia</i> 'Blue Chip'	L33	Bastin Nursery
<i>L. angustifolia</i> 'Hidcote'	L57	Rose Saatzucht ²
<i>L. angustifolia</i>	L60	Ghent University Botanic garden ³ (XX0GENT19000307)
<i>L. angustifolia</i> 'Rosea'	L68	Guido Van de Steen Nursery ⁴
<i>L. angustifolia</i> 'Munstead'	L69	Guido Van de Steen Nursery
<i>L. angustifolia</i> 'Lavenize Elegance'	L76	Bastin Nursery
<i>L. angustifolia</i> 'Lavenize Liliput'	L77	Bastin Nursery
<i>L. angustifolia</i> 'Lavenize Pom Pom'	L78	Bastin Nursery
<i>L. angustifolia</i>	L98	IPK ⁵
<i>L. angustifolia</i>	L100	IPK
<i>L. angustifolia</i> 'Hidcote'	L103	PWS ⁶
<i>L. angustifolia</i> subsp. <i>pyrenaica</i>	L62	CJBG (FR0G20016241) ⁷
<i>L. angustifolia</i> subsp. <i>pyrenaica</i>	L107	University of Vienna Botanic Garden ⁸
<i>L. latifolia</i>	L5	Bastin Nursery
<i>L. latifolia</i>	L35	Meise Botanic Garden (XX0BR10000920) ⁹
<i>L. latifolia</i>	L67	CJBG (IT0G19926251)
<i>L. latifolia</i> 'Fuenteroyos'	L84	Bastin Nursery
<i>L. latifolia</i> .	L97	IPK
<i>L. latifolia</i>	L101	IPK
<i>L. latifolia</i> 'Muffets' Children'	L105	PWS
<i>L. lanata</i>	L108	University of Vienna Botanic Garden
<i>L. lanata</i>	L112	CJBG (XX0G199986952)
Section <i>Dentatae</i>		
<i>L. dentata</i> var. <i>candicans</i>	L3	Bastin Nursery
<i>L. dentata</i> 'Ploughman's Blue'	L4	Bastin Nursery
<i>L. dentata</i> 'Iminifri'	L6	Bastin Nursery
<i>L. dentata</i> 'Adrar Mkorn'	L7	Bastin Nursery
<i>L. dentata</i> var. <i>candicans</i> 'Cap Rihr'	L10	Bastin Nursery
<i>L. dentata</i> 'Evermore Blue'	L18	Bastin Nursery
<i>L. dentata</i>	L63	CJBG (XX0G20110009)
Section <i>Stoechas</i>		
<i>L. pedunculata</i> 'Papillon'	L15	Bastin Nursery
<i>L. pedunculata</i> 'Papillon'	L34	Bastin Nursery

<i>L. stoechas</i> 'Boysenberry Ruffles'	L14	Bastin Nursery
<i>L. stoechas</i> 'Kew Red'	L27	Bastin Nursery
<i>L. stoechas</i> 'Otto Quast'	L28	Bastin Nursery
<i>L. stoechas</i> 'Papillon'	L74	Guido Van de Steen Nursery
<i>L. stoechas</i> 'Madrid Blue'	L80	Bastin Nursery
<i>L. stoechas</i> 'Libelle Purple'	L81	Bastin Nursery
<i>L. stoechas</i> 'Ever Great Blue'	L82	Bastin Nursery
<i>L. stoechas</i> 'Libelle Compact'	L83	Bastin Nursery
<i>L. stoechas</i>	L102	USDA (PI516602) ¹⁰
<i>L. stoechas</i> 'Van Goghs' Babies'	L104	PWS
<i>L. stoechas</i> 'Bandera Purple'	L111	Geert De Smet Nursery ¹¹
<i>L. stoechas</i> subsp. <i>luisieri</i>	L113	CJBG (XX0G20140601)
<i>L. stoechas</i>	L122	CJBG (FR0G20120236)
<i>L. stoechas</i>	L128	USDA (PI516603)

Section *Pterostoechas*

<i>L. antineae</i>	L118	Cambridge University Botanic Garden ¹²
<i>L. canariensis</i>	L94	Meise Botanic Garden (XX0BR2004106589)
<i>L. canariensis</i>	L119	Botanic Garden of the Canary Islands ¹³
<i>L. maroccana</i>	L95	IPK
<i>L. multifida</i>	L12	Bastin Nursery
<i>L. multifida</i>	L96	IPK
<i>L. multifida</i>	L126	University of Vienna Botanic Garden
<i>L. pubescens</i>	L99	IPK
<i>L. pubescens</i>	L115	Millennium Seed Bank (30771) ¹⁴
<i>L. pubescens</i>	L116	Millennium Seed Bank (142816)
<i>L. pubescens</i>	L117	Millennium Seed Bank (706737)
<i>L. rotundifolia</i>	L121	Cambridge University Botanic Garden

Section *Subnudae*

<i>L. subnuda</i>	L114	Millennium Seed Bank (101642)
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Intrasectional hybrids

<i>L. × intermedia</i> 'Nizza'	L1	Bastin Nursery
<i>L. × intermedia</i> 'Old English Group'	L29	Bastin Nursery
<i>L. × intermedia</i> 'Heavenly Angel'	L30	Bastin Nursery
<i>L. × intermedia</i> 'Edelweiss'	L31	Bastin Nursery
<i>L. × intermedia</i> 'Dutch'	L72	Guido Van de Steen Nursery
<i>L. × intermedia</i> 'Silver'	L73	Guido Van de Steen Nursery
<i>L. × intermedia</i> 'Futura'	L86	Bastin Nursery
<i>L. × losae</i>	L2	Bastin Nursery
<i>L. × chaytorae</i> 'Gorgeous'	L8	Bastin Nursery
<i>L. × chaytorae</i> 'Richard Gray'	L22	Bastin Nursery

Intersectional hybrids

<i>L. × gingsinsii</i> 'Goodwin Creek Grey'	L9	Bastin Nursery
<i>L. × allardii</i> 'African Pride'	L11	Bastin Nursery
<i>L. × heterophylla</i> 'Big Boy James'	L13	Bastin Nursery
<i>L. × heterophylla</i> 'Devantville Cuche'	L17	Bastin Nursery
<i>L. × heterophylla</i> 'Meerlo'	L75	Bastin Nursery

¹ Bastin Nursery ('Kwekerij Bastin'), Aalbeek, Netherlands

² Rose Saatzucht, Erfurt, Germany

³ University Ghent Botanic Garden, Ghent, Belgium

⁴ Guido Van de Steen Nursery, Wetteren, Belgium

⁵ IPK: Leibniz Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany

⁶ PWS: Plant World Seeds, Newton Abbot, United Kingdom

⁷ CJBG: Conservatory and Botanic Gardens of Geneva, Pregny-Chambésy, Switzerland

⁸ University of Vienna Botanical Garden, Vienna, Austria

⁹ Meise Botanic Garden, Meise, Belgium

¹⁰ USDA: United States Department of Agriculture - Germplasm Resources Information Network (GRIN), United States of America

¹¹ Geert De Smet Nursery ('Siergrassen Geert De Smet'), Wetteren, Belgium

¹² Cambridge University Botanic Garden, Cambridge, United Kingdom

¹³ Botanic Garden of the Canary Islands 'Viera y Clavijo', Las Palmas, Gran Canaria, Spain

¹⁴ Millennium Seed Bank, Royal Botanic Gardens Kew, Richmond, United Kingdom

Table S2. Overview of the presumed misnamed genotypes in the collection and their assumptive correct names. Assumptions were based on 4 parameters: AFLP data (phylogenetic tree and/or PCoA), chromosome numbers, genome size and morphological observation described in Upson and Andrews [3]. Fields demarked with ‘x’ indicate parameters that support the proposed genotype name. N.a. = not applicable. Taxonomical classification was not in the scope and capability of our study, hence undisputable conclusions on the misnaming of genotypes could not be drawn and only propositions for correct names were given.

Code	Current genotype name	Proposed genotype name	Phylogenetic tree and/or PCoA	Chromosome number	Genome size	Supportive morphological observation
L95	<i>L. maroccana</i>	<i>L. multifida</i>	x	n.a.	n.a.	Presence of a unique stem indumentum of long white hairs and a characteristic twist in the flower spike, typical for <i>L. multifida</i>
L74	<i>L. stoechas</i> ‘Papillon’	<i>L. pedunculata</i> ‘Papillon’	x	n.a.	n.a.	Presence of long flower stalks and blunt fertile bracts, distinguishing <i>L. pedunculata</i> from <i>L. stoechas</i>
L128	<i>L. stoechas</i>	<i>L. pedunculata</i>	x	n.a.	n.a.	Presence of long flower stalks and blunt fertile bracts, distinguishing <i>L. pedunculata</i> from <i>L. stoechas</i>
L104	<i>L. stoechas</i> ‘Van Gogh’s Babies’	<i>L. angustifolia</i> ‘Van Gogh’s Babies’	x	x	x	Absence of apical bracts distinguishing <i>L. angustifolia</i> from <i>L. stoechas</i> , and the absence of bracteoles distinguishing <i>L. angustifolia</i> from <i>L. latifolia</i> and <i>L. × intermedia</i>
L105	<i>L. latifolia</i> ‘Muffet’s Children’	<i>L. angustifolia</i> ‘Muffet’s Children’	x	x	x	Absence of bracteoles distinguishing <i>L. angustifolia</i> from <i>L. latifolia</i> and <i>L. × intermedia</i>
L73	<i>L. × intermedia</i> ‘Silver’	<i>L. angustifolia</i> ‘Silver’	x	n.a.	x	Absence of bracteoles distinguishing <i>L. angustifolia</i> from <i>L. latifolia</i> and <i>L. × intermedia</i>

Figure S3. Computer code (R Studio script) for constructing a dendrogram (1) and PCoA analysis (2).

```
#install packages needed

install.packages(c("Rcmdr","RODBC","lsmeans","nlme","lme4","boot","psych","corrgram"),dependencies=TRUE)
install.packages(c("ape","openxlsx","pvclust", "vegan"))

library("Rcmdr")
library("corrgram")
library("RODBC")
library("psych")
library("lsmeans")
library("nlme")
library("lme4")
library("boot")
library("plotrix")
library("stats")
require(PMCMR)
library("vegan")
library("ape")
library("openxlsx")
library('pvclust')

## 1. Dendrogram

#import binary AFLP data
my_tree_data <- read.xlsx("AFLP_data_manuscript_Lavandula_Van Oost et al..xlsx", sheet = 2, startRow = 1, colNames
= TRUE, rowNames = TRUE)

#Create dissimilarity matrix using euclidean squared distances
dist.mat<-vegdist(my_tree_data, method="euclidean", binary = TRUE)
```

```
#for UPGMA clustering, use 'average' methode
clust.res<-hclust(dist.mat, method="average")
```

```
#Plot the dendrogram
plot(as.phylo(rotate(clust.res, c(1:40,42:68,41))), cex = 0.73, label.offset = 0.7)
```

```
#Bootstrapping (1000 replicates) on transposed euclidean squared distance matrix. Use UPGMA clustering ('average')
transmy_tree_data <- t(my_tree_data)
fit <- pvclust(transmy_tree_data, method.dist="euclidean", method.hclust="average", use.cor= "all.obs",nboot=1000)
```

```
#create new dendrogram with bootstrapvalues (green color 'bp') to support the typology of the dendrogram
plot(fit, hang=-1)
```

2. Principal Coordinate Analysis (PCoA)

```
#import binary AFLP data
my_PCOA_data <- read.xlsx("AFLP_data_manuscript_Lavandula_Van Oost et al..xlsx", sheet = 1, startRow = 1, colNames
= TRUE, rowNames = TRUE)
```

```
#exclude outgroup Ocimum basilicum from PCoA analysis
my_PCOA_data <- my_PCOA_data[2:dim(my_PCOA_data)[1],]
```

```
#Create dissimilarity matrix using euclidean squared distances
dist.mat<-vegdist(my_PCOA_data, method="euclidean", binary = TRUE)
```

```
#perform Principal Coordinate analysis on the dissimilarity matrix
res <- pcoa(dist.mat)
```

```
#display eigenvalues (~ percentage of variation explained)
res$values$Relative_eig
```

```
#Plot the PCoA analysis  
biplot(res)
```

```
#inkscape software was used for additional adjustments to lay-out
```

Table S4. AFLP data file (Excel)

Data can be found in supplementary Excel-file 'AFLP_data_manuscript_Lavandula_Van Oost et al..xlsx'