**Supplementary Material**

Figure 3: Biogeographic analysis by DIVA with cpDNA ML tree and *Ocimum basilicum* as outgroup. The distribution areas are A: Mediterranean Basin, B: northern Africa, C: Macaronesia, D: southern Arabian Peninsula, North-east Africa) and E: India. Letter above the branches indicate the ancestral areas determined by DIVA. Letters in parenthesis after species name correspond to actual distribution.

Figure 4: Geographical distribution of species with genome size information. Each species is visualized by a sphere which size is proportional to species C-value (mean obtained with 3-5 plants). These values are detailed in table 2 (supplementary material).

Table 2: DNA content per species measured by flow cytometer using *Petunia* genome as reference (2.85 pg / nucleus). Genbank Acc. N° corresponds toGenbank accession number of each matK-trnK partial sequence used for phylogenetic analyses. The genbank numbers: KF997515, KJ196361, KJ196364, KJ196365 correspond respectively to *L. bipinnata*, *L. stoechas* subsp*. luiseri, Melissa officinalis and Ocimum basilicum.* The CNPMAII voucher reference of *L. bipinnata*, *L. stoechas* subsp*. luiseri* are05-lav-258 and 06-ps-658

Table 2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Subgenus*** | **Section** | **Species and subspecies** | **CNPMAII** | **Genbank** | **Mean (pg)** | **SD (n)** | **Number of individuals** | **Haploid** |
| **Voucher** | **Acc. N°** | **Content (C, pg)** |
| *Fabricia* | *Pterostoechas* | *L. antineae* | 05-lav-257 | KF997512 | 2,06 | - | 1 | 1,03 |
|  | *L. buchii* | 02-lav-023 | - | 1,04 | 0.04 | 5 | 0,52 |
|  | *L. buchii* var. *gracilis* | 02-lav-022 | KF997510 | 1,06 | 0.02 | 5 | 0,53 |
|  | *L. canariensis subsp. canariae* | 02-lav-028 | KF997516 | 1,36 | 0.21 | 5 | 0,68 |
|  | *L. citriodora* | 02-lav-003 | KF997517 | 3,96 | 0.05 | 6 | 1,98 |
|  | *L. coronopiolia* | 04-lav-148 | KF997518 | 2,08 | 0.26 | 5 | 1,04 |
|  | *L. mairei* var*. antiatlantica* | 04-lav-160 | - | 1,21 | 0.03 | 7 | 0,605 |
|  | *L. mairei* var*. mairei* | 04-lav-163 | KJ196350 | 1,25 | 0.05 | 5 | 0,625 |
|  | *L. maroccana* | 04-lav-171 | KJ196351 | 0,98 | 0.08 | 5 | 0,49 |
|  | *L. minutolii* var. *minutolii* | 04-lav-230 | KJ196352 | 1,07 | 0.08 | 6 | 0,535 |
|  | *L. multifida* | 06-lav-277 | KJ196353 | 3,37 | 0.04 | 3 | 1,685 |
|  | *L. pinnata* | 02-lav-048 | - | 1,08 | 0.01 | 5 | 0,54 |
|  | *L. pubescens* | 04-lav-147 | KJ196355 | 2,1 | 0.63 | 5 | 1,05 |
|  | *L. rejdalii* | 04-lav-184 | KJ196356 | 0,95 | 0.02 | 5 | 0,475 |
|  | *L. rotundifolia*  var*. rosea* | 04-lav-250 | KJ196357 | 1,75 | 0.05 | 5 | 0,875 |
|  | *L. rotundifolia* var*. violacea* | 04-lav-251 | - | 1,53 | 0.02 | 5 | 0,765 |
|  | *L. tenuisecta* | 04-lav-188 | KJ196362 | 1,03 | 0.02 | 5 | 0,515 |
| *Subnudae* | *L. aristibracteata* | 04-lav-191 | KF997511 | 1,95 | 0.67 | 5 | 0,975 |
| *L. dhofarensis* | 04-lav-222 | KF997520 | 1,64 | 0.01 | 4 | 0,82 |
| *L. macra* | 05-lav-277 | - | 1,61 | 0.01 | 5 | 0,805 |
| *Lavandula* | *Dentatae* | *L. dentata var dentata* | 04-lav-156 | KF997519 | 2,19 | 0.02 | 5 | 1,095 |
| *L. dentata* var. *candicans* | 04-lav-158 | - | 2,18 | 0.02 | 6 | 1,09 |
| *L.* × *heterophylla* | 06-allardii | KF997509 | 2,36 | - | 1 | 1,18 |
| *Lavandula* | *L. angustifolia* subsp*. pyrenaica* | 98-lp-296 | KF997514 | 2,18 | 0.02 | 4 | 1,09 |
| *L. angustifolia* subsp*. angustifolia* | Grand Causses | KF997513 | 2,13 | 0.01 | 5 | 1,065 |
| *L. lanata* | 03-lav-110 | KF997522 | 2,5 | 0.04 | 6 | 1,25 |
| *L. latifolia* | 03-lav-082 | KF997523 | 2,48 | 0.03 | 6 | 1,24 |
| *L.* × *intermedia* | clone Abrial | KF997521 | 2,23 | 0.04 | 6 | 1,115 |
| *Stoechas* | *L. pedunculata* subsp*. lusitanica* | 03-lav-090 | - | 0,92 | 0.04 | 5 | 0,46 |
| *L. pedunculata* subsp*. pedunculata* | 03-lav-083 | KJ196354 | 0,92 | 0.02 | 6 | 0,46 |
| *L. pedunculata* subsp*. sampaina* | 03-lav-085 | - | 0,92 | 0.01 | 6 | 0,46 |
| *L. stoechas* | 02-pf-1731 | KJ196359 | 0,88 | 0.01 | 5 | 0,44 |
| *L. stoechas* subsp*. stoechas* | 02-pf-1737 | KJ196361 | 0,88 | 0.03 | 6 | 0,44 |
| *L. viridis* | 03-lav-096 | KJ196363 | 0,99 | 0.03 | 6 | 0,495 |