**List of Supplemental figures and Tables in the Manuscript**



**Supplemental Fig. S1.** Fraction analysis presentation of the African tomato landraces



**Fig S2.** Dendogram showing how the 17 African tomato clustered when subjected to the Darwin’s 6 software (p < 0.05)



 **Fig. S3** Pie chart representation of the quality of the raw reads before filtering



 **Fig.S4.** Population admixture among the 17 African tomato landraces

**Table S1**. Principal component analysis of the quantitative traits ( p < 0.05)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Quantitative parameters  | PC1 | PC2 | PC3 | PC4 | PC5 | PC6 | PC7 |
| Flower heads | 0.07258 | -0.40814 | 0.09085 | 0.11223 | 0.0303 | 0.04267 | 0.14039 |
| Fruit length | **0.41411** | 0.23125 | 0.11139 | -0.10733 | 0.05275 | 0.02169 | 0.03877 |
| Fruit mass | -0.38372 | 0.24584 | 0.19038 | -0.18398 | 0.08386 | -0.06275 | 0.04988 |
| Fruit texture | -0.29795 | 0.12817 | -0.03516 |  0.05423 | 0.19827 | 0.11512 | 0.07797 |
| Fruit width | **0.41417** | -0.21053 | 0.17539 | -0.14587 | 0.06099 | 0.02006 | -0.02095 |
| Internode height | 0.21518 | -0.03836 | -0.0615 |  0.05328 | -0.0867 | -0.17874 | -0.59779 |
| Leaf length | **0.71981** | 0.11673 | -0.44241 |  0.15117 | 0.18627 | -0.27005 | 0.21874 |
| Leaf width | 0.12114 | 0.12054 | -0.45903 |  0.14075 | -0.0819 | -0.39829 | 0.23909 |
| Plant height  | 0.10945 | -0.40855 | 0.0698 |  0.20491 | -0.0913 | -0.01389 | 0.22363 |
| Plant width | 0.18552 | -0.24753 | 0.04562 | 0.08003 | -0.2033 | 0.33455 | 0.22363 |
| **% Variation**  | **20.89** | **11.63** | **9.54** | **7.92** | **6.75** | **6.16** | **5.52** |
| **Cumulative % variation**  | **20.89** | **32.62** | **42.16** | **50.08** | **56.83** | **62.99** | **68.51** |

**Table S2**. Simple matrix correlation of the phenotypic traits (p < 0.01)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | SC | LBL | LW | LL | LVC | LBC | PC | PH | PW | PN | IH | FH | FC | SHC | FSH | FL | FW | FT | FY |
| SC |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LBL |  | **-0.27** | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LW |  | -0.1 | **0.72** | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LL |  | 0.055 | 0.224 | 0.199 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LVC |  | **0.259** | -0.1 | 0.079 | -0.05 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LBC |  | -0.11 | 0.11 | 0.075 | 0.065 | 0.22 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PC |  | 0.104 | -0.23 | -0.16 | 0.112 | **0.39** | **0.48** | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| PH |  | -0.03 | -0.14 | -0.14 | -0.2 | -0 | -0.05 | -0.14 | 1 |  |  |  |  |  |  |  |  |  |  |  |
| PW |  | -0.09 | 0.01 | 0.147 | **-0.27** | -0 | -0.06 | -0.14 | **0.446** | 1 |  |  |  |  |  |  |  |  |  |  |
| PN |  | -0.15 | -0.08 | -0.16 | -0.11 | -0.1 | 0.02 | 0.215 | 0.187 | 0.2619 | 1 |  |  |  |  |  |  |  |  |  |
| IH |  | **-0.34** | 0.226 | 0.105 | 0.005 | -0.2 | 0.25 | 0.174 | 0.117 | 0.1445 | 0.158 | 1 |  |  |  |  |  |  |  |  |
| FH |  | -0.01 | -0.2 | -0.16 | **-0.32** | 0.08 | -0.25 | -0.1 | **0.377** | 0.1867 | 0.161 | -0.12 | 1 |  |  |  |  |  |  |  |
| FC |  | 0.192 | -0.18 | -0.23 | 0.055 | 0.16 | -0.06 | 0.056 | -0.241 | -0.299 | -0.13 | -0.29 | -0.21 | 1 |  |  |  |  |  |  |
| SHC |  | 0.106 | -0.26 | -0.24 | -0.01 | 0.14 | -0.07 | 0.153 | -0.172 | -0.169 | -0.02 | -0.1 | -0.16 | **0.761** | 1 |  |  |  |  |  |
| FSH |  | -0.02 | 0.061 | -0.06 | -0.05 | -0.1 | 0.03 | 0.107 | -0.064 | 0.2694 | 0.157 | **0.351** | -0.04 | -0.08 | -0.11 | 1 |  |  |  |  |
| FL |  | -0.19 | 0.258 | 0.182 | -0.04 | 0.07 | 0.17 | 0.044 | -0.02 | 0.2209 | 0.104 | 0.175 | -0.01 | **-0.39** | **-0.3** | 0.1928 | 1 |  |  |  |
| FW |  | **-0.31** | 0.252 | 0.091 | -0.2 | -0.1 | 0.2 | -0.07 | 0.112 | 0.2302 | **0.342** | **0.361** | 0.05 | -0.32 | -0.22 | **0.3533** | **0.64** | 1 |  |  |
| FT |  | 0.109 | -0.06 | -0.06 | 0.219 | 0.1 | 0.04 | 0.159 | -0.217 | -0.293 | -0.16 | **-0.29** | -0.2 | **0.352** | 0.21 | -0.2724 | -0.23 | **-0.39** | 1 |  |
| FY |  | **-0.28** | 0.175 | **0.446** | -0.17 | -0.1 | 0.1 | -0.09 | -0.003 | 0.229 | 0.264 | 0.271 | 0.044 | -0.23 | -0.04 | **0.3539** | **0.65** | **0.93** | **-0.37** | 1 |

**Key:** SC- stem colour, LBL- leaf blade length, LW- leaf width, LL- leaf length, LVC- leaf vein colour, LBC- leaf blade colour, PC- petiole colour, PH – plant height , PW – plant width at flowering, PN – petal umbers , IH- internode height , FH- number of flower heads, FC- Flower colour, SHC- fruit shoulder colour, FSH – fruit shape, FL- fruit length, FW- fruit width, FT- fruit texture, FY- fruit yield.

**Table S3.** Diversity index (H´) values explaining the genetic diversity of the landraces based on qualitative traits.

|  |  |
| --- | --- |
| Qualitative traits | Genetic index (h’) |
| Fruit colour | 0.99 |
| Fruit shape | 0.99 |
| Fruit texture | 0.99 |
| Leaf base shape | 0.99 |
| Leaf blade colour | 0.99 |
| Petiole colour | 0.99 |
| Stem colour | 0.98 |
| Vein colour | 0.97 |
| Total diversity  | 7.89 |
| Average genetic index (h’) | 0.99 |

**Table S4**. Differential expressed genes at specific fruit development stage

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Accession | Differentially expressed genes | Before fruiting  | Mature green | Mature breaker | Mature red |
| V1005987 | 4,000 | 102 | 5 | 2 | 3 |
| V1006833 | 4,640 | 329 | 1 | 0 | 0 |
| V1005872 | 2,787 | 55 | 1 | 0 | 0 |
| V1005878 | 7,065 | 330 | 71 | 1 | 4 |
| RV102114 | 3,586 | 299 | 3 | 1 | 1 |
| V1007108 | 10,161 | 357 | 82 | 8 | 17 |
| TINDI 050580 | 9,269 | 245 | 12 | 1 | 43 |
| RV102112 | 7,125 | 570 | 0 | 0 | 29 |
| TINDI 050589 | 7,374 | 179 | 36 | 0 | 21 |
| V1006838 | 13,028 | 554 | 27 | 8 | 6 |
| V1006842 | 11,854 | 483 | 35 | 1 | 10 |
| V1006826 | 11,515 | 409 | 36 | 0 | 5 |
| V1005874 | 11,033 | 336 | 49 | 1 | 39 |
| V1030380 | 8,275 | 471 | 3 | 6 | 20 |
| V1006892 | 9,538 | 338 | 5 | 0 | 3 |
| V1035028 | 8,513 | 108 | 4 | 7 | 4 |
| V1005875 | 11,146 | 501 | 19 | 3 | 2 |