**Supplemental Table S3:** Information of 62 downloaded tea germplasms on NCBI.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Sample** | **Biosample accession** | **Species** | **Name** | **Location** | **Bioproject accession** |
| 1 | HZ095 | SAMN15523315 | *C. crassicolumna* | Malipo | Yunnan | PRJNA646044 |
| 2 | HZ125 | SAMN15523328 | *C. taliensis* | Fengqing | Yunnan | PRJNA646044 |
| 3 | HZ110 | SAMN15523319 | C. *atrothea* | Nanjian | Yunnan | PRJNA646044 |
| 4 | HZ061 | SAMN15523287 | *C. sinensis* var. *assamica* | Guilin | Guangxi | PRJNA646044 |
| 5 | XH-1 | SAMN15523388 | *C. sinensis* var. *assamica* | Yingde | Guangdong | PRJNA646044 |
| 6 | YH-2 | SAMN15523390 | *C. sinensis* var. *assamica* | Yingde | Guangdong | PRJNA646044 |
| 7 | HZ100 | SAMN15523316 | *C. sinensis* var. *assamica* | Lincang | Yunnan | PRJNA646044 |
| 8 | HZ117 | SAMN15523322 | *C. sinensis* var. *assamica* | Fengqing | Yunnan | PRJNA646044 |
| 9 | HZ050 | SAMN15523280 | *C. sinensis* var. *assamica* | Menghai | Yunnan | PRJNA646044 |
| 10 | HZ045 | SAMN15523278 | *C. sinensis* var. *assamica* | Menghai | Yunnan | PRJNA646044 |
| 11 | HZ072 | SAMN15523296 | *C. sinensis* var. *assamica* | Jinghong | Yunnan | PRJNA646044 |
| 12 | HZ076 | SAMN15523300 | *C. sinensis* var. *assamica* |  | Hainan | PRJNA646044 |
| 13 | HZ118 | SAMN15523323 | *C. sinensis* var. *assamica* | Menghai | Yunnan | PRJNA646044 |
| 14 | HZ119 | SAMN15523324 | *C. sinensis* var. *assamica* | Shuangjiang | Yunnan | PRJNA646044 |
| 15 | HZ123 | SAMN15523326 | *C. sinensis* var. *assamica* | Mengla | Yunnan | PRJNA646044 |
| 16 | HZ124 | SAMN15523327 | *C. sinensis* var. *assamica* | Wenshan | Yunnan | PRJNA646044 |
| 17 | [HZ079](https://www.ncbi.nlm.nih.gov/biosample/15523303) | SAMN15523303 | *C. sinensis* var. *pubilimba* | Shangsi | Guangxi | PRJNA646044 |
| 18 | [HZ078](https://www.ncbi.nlm.nih.gov/biosample/15523302) | SAMN15523302 | *C. sinensis* var. *pubilimba* | Jinxiu | Guangxi | PRJNA646044 |
| 19 | [HZ074](https://www.ncbi.nlm.nih.gov/biosample/15523298) | SAMN15523298 | *C. sinensis* var. *pubilimba* | Longsheng | Guangxi | PRJNA646044 |
| 20 | [HZ039](https://www.ncbi.nlm.nih.gov/biosample/15523274) | SAMN15523274 | *C. sinensis* var. *pubilimba* | Ruyuan | Guangdong | PRJNA646044 |
| 21 | [HZ002](https://www.ncbi.nlm.nih.gov/biosample/15523252) | *SAMN15523252* | *C. sinensis var. pubilimba* | Ziyuan | Guangxi | PRJNA646044 |
| 22 | JX-4 | SAMN15523375 | *C. sinensis* var. *pubilimba* | Jinxiu | Guangxi | PRJNA646044 |
| 23 | HZ090 | SAMN15523312 | *C. sinensis* var. *pubilimba* | Longzhou | Guangxi | PRJNA646044 |
| 24 | HZ004 | SAMN15523254 | *C. sinensis* var. *sinensis* | Tiantai | Zhejiang | PRJNA646044 |
| 25 | HZ008 | SAMN15523256 | *C. sinensis* var. *sinensis* | Anxi | Fujian | PRJNA646044 |
| 26 | HZ009 | SAMN15523257 | *C. sinensis* var. *sinensis* | Ziyuan | Guangxi | PRJNA646044 |
| 27 | HZ013 | SAMN15523260 | *C. sinensis* var. *sinensis* | Shucheng | Anhui | PRJNA646044 |
| 28 | HZ014 | SAMN15523261 | *C. sinensis* var. *sinensis* | Fuan | Fujian | PRJNA646044 |
| 29 | HZ015 | SAMN15523262 | *C. sinensis* var. *sinensis* | Guilin | Guangxi | PRJNA646044 |
| 30 | HZ016 | SAMN15523263 | *C. sinensis* var. *sinensis* | Fuan | Fujian | PRJNA646044 |
| 31 | HZ040 | SAMN15523275 | *C. sinensis* var. *sinensis* | Anxi | Fujian | PRJNA646044 |
| 32 | HZ054 | SAMN15523281 | *C. sinensis* var. *sinensis* | Anqing | Anhui | PRJNA646044 |
| 33 | HZ056 | SAMN15523282 | *C. sinensis* var. *sinensis* | Meitan | Guizhou | PRJNA646044 |
| 34 | HZ057 | SAMN15523283 | *C. sinensis* var. *sinensis* | Szechwan | Chongqing | PRJNA646044 |
| 35 | T4 | SAMN17864187 | *C. sinensis* var. *sinensis* | Jiukengzhong | Zhejiang | PRJNA665594 |
| 36 | T62 | SAMN17864237  | *C. sinensis* var. *sinensis* | Zhenong117 | Zhejiang | PRJNA665594 |
| 37 | T76 | SAMN17864250 | *C. sinensis* var. *sinensis* | Yingshuang | Zhejiang | PRJNA665594 |
| 38 | T63 | SAMN17864238 | *C. sinensis* var. *sinensis* | Gancha14 | Jiangxi | PRJNA665594 |
| 39 | T66 | SAMN17864241 | *C. sinensis* var. *sinensis* | Cuifeng | Jiangxi | PRJNA665594 |
| 40 | T77 | SAMN17864251 | *C. sinensis* var. *sinensis* | Shangmeizhou | Jiangxi | PRJNA665594 |
| 41 | T78 | SAMN17864252 | *C. sinensis* var. *sinensis* | Anhui3 | Anhui | PRJNA665594 |
| 42 | T81 | SAMN17864254 | *C. sinensis* var. *sinensis* | Niupicha | Sichuan | PRJNA665594 |
| 43 | T25 | SAMN17864208 | *C. sinensis* var. *sinensis* | Fenghuangdancong | Guangdong | PRJNA665594 |
| 44 | A3 | SAMN17864285 | *C. sinensis* var. *sinensis* | Meitantaicha | guizhou | PRJNA665594 |
| 45 | T98 | SAMN17864269 | *C. sinensis* var. *assamica* | W-5 | Yunnan | PRJNA665594 |
| 46 | T87 | SAMN17864258 | *C. sinensis* var. *assamica* | Fenghuangshuixian | Guangdong | PRJNA665594 |
| 47 | CE | SAMN17864291 | *C. sinensis* var. *pubilimba* |  | Guangxi | PRJNA665594 |
| 48 | BIO12 | SAMN17864309 | *C. taliensis* | BIO12 | Yunnan | PRJNA665594 |
| 49 | ZC-102 | SAMN14785855 | *C. sinensis* var. *sinensis* | Zhongcha-102 | Zhejiang | PRJNA597714 |
| 50 | ZC-302 | SAMN14785856 | *C. sinensis* var. *sinensis* | Zhongcha-302 | Zhejiang | PRJNA597714 |
| 51 | GH-3 | SAMN14785863 | *C. sinensis* var. *sinensis* | Guihong-3 | Guangxi | PRJNA597714 |
| 52 | GH-1 | SAMN14785876 | *C. sinensis* var. *sinensis* | Guihong-1 | Guangxi | PRJNA597714 |
| 53 | YSXL | SAMN14785885  | *C. sinensis* var. *sinensis* | Yaoshanxiulv | Guangxi | PRJNA597714 |
| 54 | QC-1 | SAMN14785882 | *C. sinensis* var. *sinensis* | Qiancha-1 | Guizhou | PRJNA597714 |
| 55 | CYBH | SAMN14785891 | *C. sinensis* var. *assamica* | Changyebaihao | Yunnan | PRJNA597714 |
| 56 | YK-43 | SAMN14785892 | *C. sinensis* var. *assamica* | Yunkang-43 | Yunnan | PRJNA597714 |
| 57 | YX-9 | SAMN14785893 | *C. sinensis* var. *assamica* | Yunxuan-9 | Yunnan | PRJNA597714 |
| 58 | MHDYZ | SAMN14785896 | *C. sinensis* var. *assamica* | Menghaidayezhong | Yunnan | PRJNA597714 |
| 59 | YH-9 | SAMN14785919 | *C. sinensis* var. *assamica* | Yinghong-9 | Guangdong | PRJNA597714 |
| 60 | BD-2 | SAMN14785906 | *C. taliensis* | BD-2 | Yunnan | PRJNA597714 |
| 61 | EC-5 | SAMN14785864 | *C. sinensis* var. *sinensis* | Echa-5 | Hubei | PRJNA597714 |
| 62 | XH | SAMN14785918 | *C. sinensis* var. *assamica* | Xiuhong | Guangdong | PRJNA597714 |