

## **Additional File 15.**

Table 1. Identification and characterization of the Sordariomycete genomes used in comparative analyses. Species in bold are plant pathogens.

### **References cited in Table 1.**

- Wilken, P. M., Steenkamp, E. T., Wingfield, M. J., De Beer, Z. W., & Wingfield, B. D. (2013). IMA Genome-F 1: *Ceratocystis fimbriata* Draft nuclear genome sequence for the plant pathogen, *Ceratocystis fimbriata*. IMA fungus, 4(2), 357-358.
- Bock, T., Chen, W. H., Ori, A., Malik, N., Silva-Martin, N., Huerta-Cepas, J., ... & Kirkpatrick, J. (2014). An integrated approach for genome annotation of the eukaryotic thermophile *Chaetomium thermophilum*. Nucleic acids research, 42(22), 13525-13533.
- Zheng, P., Xia, Y., Xiao, G., Xiong, C., Hu, X., Zhang, S., ... & Zhao, G. P. (2011). Genome sequence of the insect pathogenic fungus *Cordyceps militaris*, a valued traditional Chinese medicine. Genome biology, 12(11), R116.
- Cuomo, C. A., Güldener, U., Xu, J. R., Trail, F., Turgeon, B. G., Di Pietro, A., ... & Adam, G. (2007). The *Fusarium graminearum* genome reveals a link between localized polymorphism and pathogen specialization. Science, 317(5843), 1400-1402.
- Cuomo, C. A., Untereiner, W. A., Ma, L. J., Grabherr, M., & Birren, B. W. (2015). Draft genome sequence of the cellulolytic fungus *Chaetomium globosum*. Genome announcements, 3(1), e00021-15. Cuomo, C. A., Untereiner, W. A., Ma, L. J., Grabherr, M., & Birren, B. W. (2015). Draft genome sequence of the cellulolytic fungus *Chaetomium globosum*. Genome announcements, 3(1), e00021-15.
- Ma, L. J., Van Der Does, H. C., Borkovich, K. A., Coleman, J. J., Daboussi, M. J., Di Pietro, A., ... & Houterman, P. M. (2010). Comparative genomics reveals mobile pathogenicity chromosomes in *Fusarium*. Nature, 464(7287), 367.
- Coleman, J. J., Rounseley, S. D., Rodriguez-Carres, M., Kuo, A., Wasmann, C. C., Grimwood, J., ... & Schwartz, D. C. (2009). The genome of *Nectria haematococca*: contribution of supernumerary chromosomes to gene expansion. PLoS genetics, 5(8), e1000618.
- Randhir, R. J., & Hanau, R. M. (1997). Size and complexity of the nuclear genome of *Colletotrichum graminicola*. Applied and environmental microbiology, 63(10), 4001-4004.
- Dean, R. A., Talbot, N. J., Ebbole, D. J., & Farman, M. L. (2005). The genome sequence of the rice blast fungus *Magnaporthe grisea*. Nature, 434(7036), 980.
- Gao, Q., Jin, K., Ying, S. H., Zhang, Y., Xiao, G., Shang, Y., ... & Peng, G. (2011). Genome sequencing and comparative transcriptomics of the model entomopathogenic fungi *Metarhizium anisopliae* and *M. acridum*. PLoS genetics, 7(1), e1001264.
- Galagan, J. E., Calvo, S. E., Borkovich, K. A., Selker, E. U., & Read, N. D. (2003). The genome sequence of the filamentous fungus *Neurospora crassa*. Nature, 422(6934), 859.

Ellison, C. E., Stajich, J. E., Jacobson, D. J., Natvig, D. O., Lapidus, A., Foster, B., ... & Taylor, J. W. (2011). Massive changes in genome architecture accompany the transition to self-fertility in the filamentous fungus *Neurospora tetrasperma*. *Genetics*, 189(1), 55-69.

Haridas, S., Wang, Y., Lim, L., Alamouti, S. M., Jackman, S., Docking, R., ... & Breuil, C. (2013). The genome and transcriptome of the pine saprophyte *Ophiostoma piceae*, and a comparison with the bark beetle-associated pine pathogen *Grosmannia clavigera*. *BMC genomics*, 14(1), 373.

Espagne, E., Lespinet, O., Malagnac, F., Da Silva, C., Jaillon, O., Porcel, B. M., ... & Anthouard, V. (2008). The genome sequence of the model ascomycete fungus *Podospora anserina*. *Genome biology*, 9(5), R77.

Berka, R. M., Grigoriev, I. V., Otillar, R., Salamov, A., Grimwood, J., Reid, I., ... & Henrissat, B. (2011). Comparative genomic analysis of the thermophilic biomass-degrading fungi *Myceliophthora thermophila* and *Thielavia terrestris*. *Nature biotechnology*, 29(10), 922-927.

Kubicek, C. P., Herrera-Estrella, A., Seidl-Seiboth, V., Martinez, D. A., Druzhinina, I. S., Thon, M., ... & Mukherjee, M. (2011). Comparative genome sequence analysis underscores mycoparasitism as the ancestral life style of *Trichoderma*. *Genome biology*, 12(4), R40.

Martinez, D., Berka, R. M., Henrissat, B., Saloheimo, M., Arvas, M., Baker, S. E., ... & Danchin, E. G. (2008). Genome sequencing and analysis of the biomass-degrading fungus *Trichoderma reesei* (syn. *Hypocrea jecorina*). *Nature biotechnology*, 26(5), 553.

Klosterman, S. J., Subbarao, K. V., Kang, S., Veronese, P., Gold, S. E., Thomma, B. P., ... & Garcia-Pedrajas, M. D. (2011). Comparative genomics yields insights into niche adaptation of plant vascular wilt pathogens. *PLoS pathogens*, 7(7), e1002137.

|   | Size              | %GC total   | Genes       | Gene density  | Mean protein length (aa) | GenBank accession | Ref.                          |
|---|-------------------|-------------|-------------|---------------|--------------------------|-------------------|-------------------------------|
| <b><i>Ceratocystis cacaofunesta</i></b> | <b>30.500.000</b> | <b>48,1</b> | <b>7269</b> | <b>4195,9</b> | <b>542</b>               |                   | <b>this paper</b>             |
| <b><i>Ceratocystis fimbriata</i></b>    | 29.400.000        | 48,3        | 7609        | 3863,8        | 517                      | GCA_000389695.2   | Wilken <i>et al.</i> 2013     |
| <i>Chaetomium globosum</i>              | 34.900.000        | 55,6        | 11124       | 3137,4        | 493                      | GCA_000143365.1   | Cuomo <i>et al.</i> 2015      |
| <i>Chaetomium thermophilum</i>          | 28.322.806        | 52,6        | 7475        | 3789,0        | 547                      | GCA_000221225.1   | Bock <i>et al.</i> 2014       |
| <i>Cordyceps militaris</i>              | 32.210.000        | 51,4        | 9651        | 3337,5        | 504                      | GCA_000225605.1   | Zheng <i>et al.</i> 2011      |
| <b><i>Fusarium graminearum</i></b>      | 36.446.046        | 48,4        | 13289       | 2742,9        | 446                      | GCA_000599445.1   | Cuomo <i>et al.</i> 2007      |
| <b><i>Fusarium oxysporum</i></b>        | 61.357.934        | 48,4        | 20897       | 2936,3        | 407                      | GCA_000259975.2   | Ma <i>et al.</i> 2010         |
| <b><i>Fusarium solani</i></b>           | 51.150.000        | 50,8        | 15707       | 3256,5        | 480                      | GCA_002215905.1   | Coleman <i>et al.</i> 2009    |
| <b><i>Fusarium verticillioides</i></b>  | 41.776.161        | 48,7        | 15865       | 2633,5        | 420                      | GCA_000149555.1   | Ma <i>et al.</i> 2010         |
| <b><i>Glomerella graminicola</i></b>    | 51.604.658        | 49,2        | 11942       | 4263,1        | 466                      | GCA_000149035.1   | Randhir <i>et al.</i> 1997    |
| <b><i>Magnaporthe grisea</i></b>        | 41.695.457        | 51,6        | 11054       | 3772,4        | 481                      | GCA_001548815.1   | Dean <i>et al.</i> 2005       |
| <i>Metarhizium acridum</i>              | 39.422.329        | 49,9        | 9849        | 4002,7        | 494                      | GCA_000187405.1   | Gao <i>et al.</i> 2011        |
| <i>Metarhizium anisopliae</i>           | 39.145.269        | 51,4        | 10583       | 3698,9        | 507                      | GCA_000814975.1   | Gao <i>et al.</i> 2011        |
| <i>Neurospora crassa</i>                | 40.416.174        | 48,9        | 10785       | 3805,3        | 438                      | GCA_000786625.1   | Galagan <i>et al.</i> 2003    |
| <i>Neurospora tetrasperma</i>           | 39.146.357        | 49,4        | 10380       | 3766,9        | 468                      | GCA_000213175.1   | Ellison <i>et al.</i> 2011    |
| <i>Ophiostoma piceae</i>                | 33.000.000        | 52,8        | 8884        | 3714,5        | 467                      | GCA_000410735.1   | Haridas <i>et al.</i> 2013    |
| <i>Podospora anserina</i>               | 35.010.595        | 52,2        | 10588       | 3306,6        | 507                      | GCA_000226545.1   | Espagne <i>et al.</i> 2008    |
| <i>Thielavia terrestris</i>             | 36.912.256        | 54,7        | 9813        | 3761,3        | 464                      | GCA_000226115.1   | Berka <i>et al.</i> 2011      |
| <i>Trichoderma atroviride</i>           | 36.100.000        | 49,8        | 11816       | 3043,1        | 456                      | GCA_000963795.1   | Kubicek <i>et al.</i> 2011    |
| <i>Trichoderma reesei</i>               | 34.100.000        | 52,0        | 9129        | 3729,6        | 493                      | GCA_000167675.2   | Martinez <i>et al.</i> 2008   |
| <i>Trichoderma virens</i>               | 39.022.666        | 49,2        | 12427       | 3138,3        | 471                      | GCA_000170995.2   | Kubicek <i>et al.</i> 2011    |
| <b><i>Verticillium alfalfae</i></b>     | 30.299.901        | 56,1        | 10187       | 3222,7        | 438                      | GCA_000150825.1   | Klosterman <i>et al.</i> 2011 |
| <b><i>Verticillium dahliae</i></b>      | 33.828.453        | 55,9        | 10948       | 3090,1        | 474                      | GCA_000150675.2   | Klosterman <i>et al.</i> 2011 |