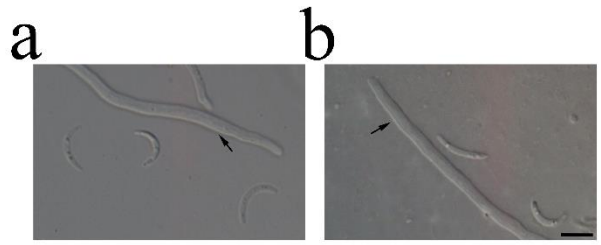
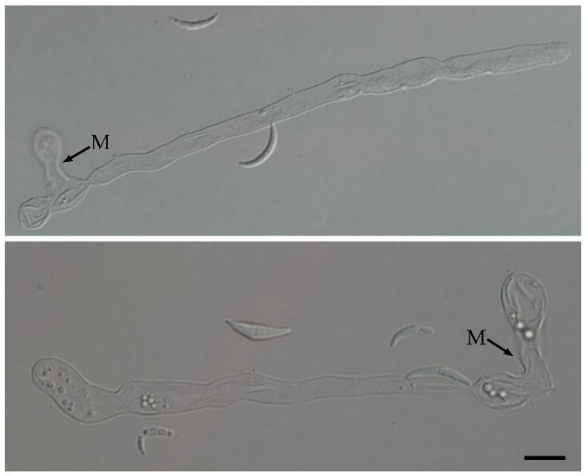
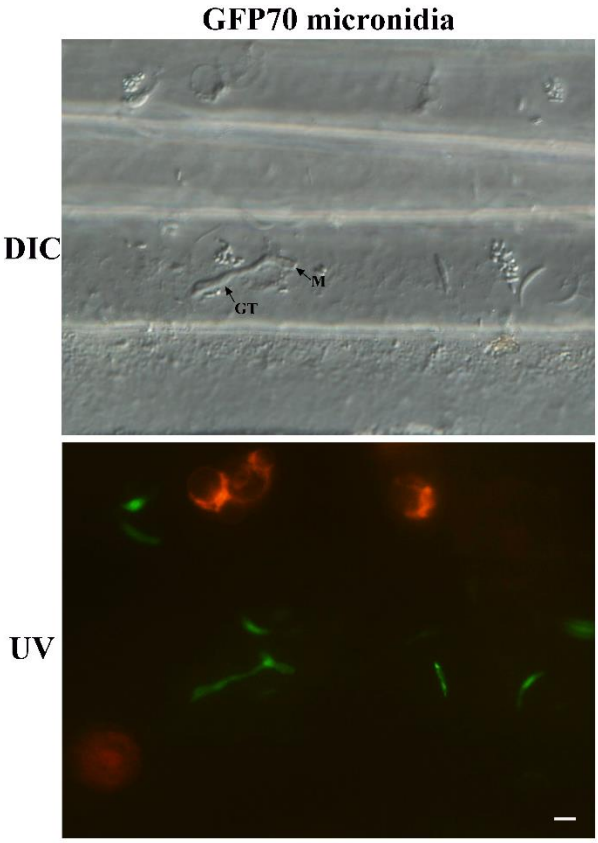


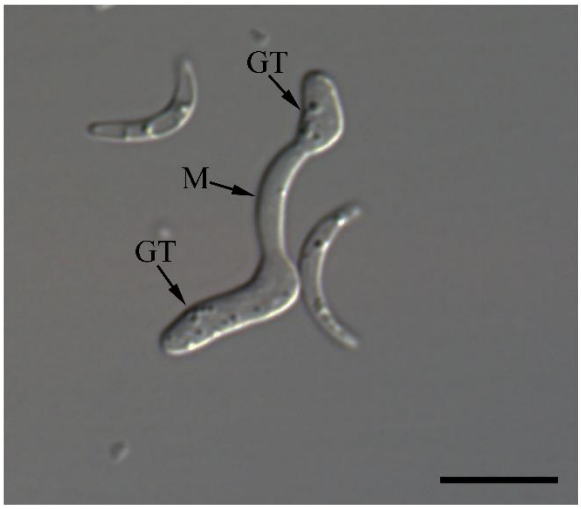
Supplementary Figure 1. Microconidia of 70-15 (*MAT1-1-1*) were not stimulated for germination or attracted to germ tubes or hyphae (marked with arrows) of Guy11 (*MAT1-1-2*) on 1% water agar (**a**) or oatmeal agar (**b**). Bar=5 µm.



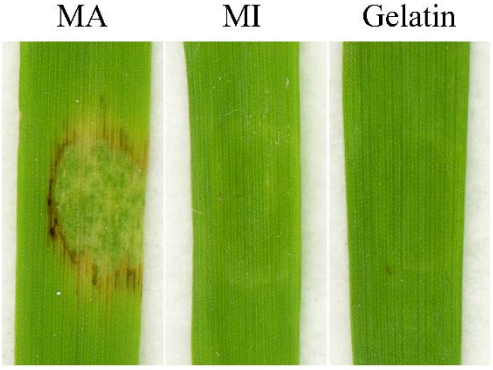
Supplementary Figure 2. Microconidia of the *Mgatg1* deletion mutant germinated on 1% water agar for 96 h. Arrows pointed to the germination site. MI, microconidia; GT, Bar=5 μm.



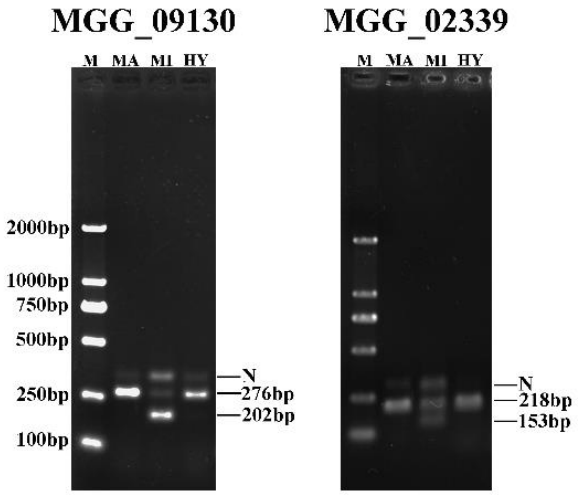
Supplementary Figure 3. Microconidium germination on plant surfaces. The barley epidermis inoculated with GFP70 microconidia was peeled off at 72 hpi and examined under DIC (upper) or epifluorescence (lower) microscopy. Bar=5 µm. M, microconidium; GT, germ tube.



Supplementary Figure 4. Microconidia incubated on plastic coverslips for 72 h. Germination was rarely observed, and appressorium formation was not detected. M, microconidium; GT, germ tube. Bar=5 µm.



Supplementary Figure 5. Infection assays with intact barley leaves. Leaves of barley cultivar Golden Promise were drop-inoculated (lower) with macroconidia (MA) or microconidia (MI) of strain 70-15, or gelatin (as a control). Typical leaves were photographed 7 dpi.



Supplementary Figure 6. Verification of two genes specifically expressed in microconidia by RT-PCR. PCR products of MGG_09130 and MGG_02339 were amplified from first strand cDNA synthesized with RNA isolated from macroconidia (MA), microconidia (MI), and vegetative hyphae (HY). M, the *DS*^{TM} 2000 (Dongsheng, Guangzhou, China) MW marker lane. The 202-bp band for MGG_09130 and the 153-bp band for MGG_02339 were the expected bands amplified from cDNA of these two genes. The 276-bp and 218-bp bands were amplified from contaminating genomic DNA. N, non-specific band.

Supplementary Table 1. Microconidium production in different liquid media.

Medium	Temperature (^{o}C)	Microconidia * (x10^4/ml)
PDB	15	54.3 ± 12.1^{B}
	20	418.3 ± 221.1^{A}
	25	3.2 ± 2.9^{C}
5xYEG	20	2.1 ± 2.1^{C}
CM	20	0.0 ± 0.0^{C}

***** Data from three replicates were analyzed with Tamhane's T2 test. The same letter indicated that there was no significant difference. Different letters (A, B, C) were used to mark statistically significant difference (P = 0.05).

Supplementary Table 2. Genes specifically expressed or up-regulated over 20-fold in microconidia.

	Gene ID	Fold Change	
		MI/HY	MI/MA
Specifically expressed in microconidia (RPKM>2)	MGG_02645	N/A*****	N/A
	MGG_14895	N/A	N/A
	MGG_10047	N/A	N/A
	MGG_02339	N/A	N/A
	MGG_13132	N/A	N/A
	MGG_09130	N/A	N/A
	MGG_08567	N/A	N/A
Up-regulated (>20-fold) in microconidia	MGG_04554	29	270
	MGG_14041	892	64
	MGG_04358	116	39
	MGG_15485	45	38
	MGG_08046	50	23
	MGG_05952	779	21

***** These genes were specifically expressed in microconidia.
MI/HY, microconidia vs. hyphae comparison.
MI/MA, microconidia vs. macroconidia comparison.
N/A, not assayed.

Supplementary Table 3. *Magnaporthe oryzae* strains used in this study

Strain	Genotype	Reference
Guy11	Wild type (*MAT1-1-2*)	[1]
70-15	Wild type (*MAT1-1-1*)	[1]
P34	Wild type	[2]
Y131	Wild type	[2]
GFP70	A transformant of 70-15 expressing GFP	This study
nn78	△*pmk1* mutant	[3]
MK23	△*mst12* mutant	[4]
MD1	△*Momcm1* mutant	[5]
atg1	△*Mgatg1* mutant	[6]

Supplementary References

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