

Supplementary:

Table S1. Culture strains, host, country and ITS GenBank accession numbers used as references in this study.

Species	Strain number	Host	Country	GenBank accession number	
				ITS	GAPDH
<i>Alternaria alternata</i>	CBS 916.96	NA	NA	KF465761	
<i>Bipolaris cynodontis</i>	CBS 109894	<i>Cynodon dactylon</i>	Hungary	KJ909767	
<i>B. eleusines</i>	CBS 274.91	<i>Eleusine indica</i>	Australia	KJ909768	
<i>B. maydis</i>	CBS 137271	<i>Zea mays</i>	USA	AF071325	KM034846
<i>B. salviniae</i>	CBS 308.90	Not available	Australia	MH873897	
<i>B. sorokiniana</i>	CBS 110.14	<i>Hordeum</i> sp.	USA	KJ922381	
<i>B. yamadae</i>	CBS 202.29	<i>Panicum miliaceum</i>	Japan	KJ909779	
<i>B. zeae</i>	BRIP 11512IsoP*	<i>Zea mays</i>	Australia	KJ415538	
<i>B. zeicola</i>	FIP532	<i>Zea mays</i>	USA	KM230398	KM034815
<i>Curvularia hawaiiensis</i>	CBS 173.57	<i>Oryza sativa</i>	Hawaii	JN601029	
<i>C. inaequalis</i>	CBS 102.42	Sand dune soil	France	KJ922375	KM061787
<i>C. lunata</i>	CBS730.96	Human lung biopsy	USA	JX256429	JX276441
<i>C. papendorfii</i>	CBS 308.67	<i>Acacia karroo</i>	South Africa	KJ909774	KM083617
<i>C. richardiae</i>	BRIP 4371	<i>Richardia brasiliensis</i>	Australia	KJ415555	KJ415391
<i>C. spicifera</i>	CBS 274.52	Soil	Spain	JN192387	JN600979
<i>C. trifolii</i>	ICMP6149	<i>Setaria glauca</i>	New Zealand	JX256434	JX276457
<i>C. ellisii</i>	CBS193.62	Air	Pakistan	JN192375	
<i>C. graminicola</i>	BRIP 23186	<i>Aristida ingrata</i>	Australia	JN192376	JN600964
<i>C. siddiquii</i>	CBS 142.78	Unknown	Egypt	MN688824	MN688851
<i>C. siddiquii</i>	CBS 196.62	Air	Pakistan	MN688823	MN688850
<i>Curvularia</i> sp.	BRIP 61674	<i>Oryza australiensis</i>	Australia		KU552661

Table S2. Distribution of morphological and pathogenic variability in the total population of maize leaf blight isolates sampled from six maize production zones of India.

S. No	Group	Hotspots included (Identified species*)	Morphological and pathological profiles	Percent composition
1.	Group-1	<i>BmPhRj4</i> (<i>Bipolaris maydis</i>), <i>BmAmRj4</i> (<i>Alternaria</i> sp.) and <i>BmLdPj2</i> (<i>B. maydis</i>)	Rough colony with no zonation and irregular margins, slow to medium colony growth, mild to moderate virulence on host, conidial dimensions ranging from 9.8 x 3.4 µm to 18.6 x 5.8 µm, 2.5 to 6.0 septate, incubation period 72 h on host and disease severity 1.5 to 4.3 on the rating scale, symptoms ranging from Type-I, -II and -IV	15+15+34=64 (18.28%)
2.	Group-2	<i>BmBjUa1</i> (<i>B. maydis</i>), <i>BmCgRj4</i> (<i>B. maydis</i>), <i>BmPtUa1</i> (<i>B. maydis</i>) and <i>BmGdGj5</i> (<i>Carvularia papendorfii</i>)	Rough colony with no zonation and regular margins, medium to fast colony growth, having moderate virulence on host, conidial dimensions 7.6 x 3.1 to 16.9 x 4.1 µm, 1.3 to 5.8 septate, incubation period 48 to 72 h and disease severity 2.6 to 3.3 on the rating scale, symptoms Type-I and -II	23+18+18+12=71 (20.28%)
3.	Group-3	<i>BmPnDl12</i> (<i>B. maydis</i>) and <i>BmLhRj4</i> (<i>C. sporobolcola</i>)	Rough colony with zonation and irregular margins, medium colony growth, having moderate to high virulence, conidial dimensions 17.2 x 3.7 to 19.3 x 5.0 µm, 3.7 to 4.8 septate, incubation period 72 h and disease severity of 2.7 to 3.7 on the rating scale, Symptoms Type-III and -IV	15+11=26 (7.42%)
4.	Group-4	<i>BmBsRj4</i> (<i>B. maydis</i>), <i>BmDnRj4</i> (<i>B. maydis</i>), <i>BmKgUa1</i> (<i>B. maydis</i>), <i>BmKrHr2</i> (<i>B. maydis</i>), <i>BmKtRj4</i> (<i>B. maydis</i>) and <i>BmSkRj4</i> (<i>C. siddiquii</i>)	Smooth appressed colony with no zonation and regular margins, slow to fast colony growth, having mild to high virulence, conidial dimensions 10.1 x 2.6 to 16.8 x 3.1 µm, 2.5 to 4.7 septate, incubation period 48 to 96 h and disease severity 1.9 to 3.6 on the rating scale. Symptoms Type-1, -II, -III and -V	11+19+21+20+23+16=110 (31.42%)

5.	Group-5	<i>BmMdKa6</i> (<i>B. zeicola</i>), <i>BmMyKa6</i> (<i>B. maydis</i>), and <i>BmSmBh3</i> (<i>C. graminicola</i> -like fungus)	Smooth appressed colony with zonation and regular margins, medium to fast colony growth, conidial dimensions 7.8 x 6.1 to 13.1 x 3.8 µm, 2.6-4.2 septate, having mild to high virulence, 72 to 76 h incubation period and disease severity 1.7 to 4.3 on rating, Symptoms Type-I, -IV and -V	13+9+18=40 (11.42%)
6.	Group-6	<i>BmDhBh3</i> (<i>B. maydis</i>) and <i>BmAdGj5</i> (<i>C. papendorfii</i>)	Rough appressed colony with no zonation and regular margins, medium colony growth, conidial dimensions 12.1 x 4.3 to 14.4 x 4.5 µm, 2.9 to 3.5 septate, having high virulence, 72 h incubation period and disease rating 3.7 to 4.5 on the rating scale. Symptoms Type-I and -VI	27+12=39 (11.14%)

*Respective species are photogenically identified in Figure 1A, B.

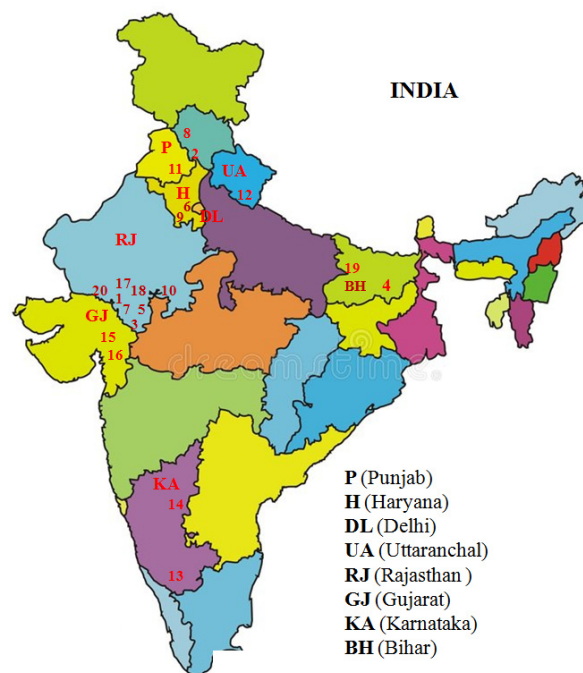


Figure S1. Hotspot locations covered under survey and surveillance for monitoring maize leaf blight symptoms: **1** (*Pichola*); **2** (*Bajaaura*); **3** (*Banswara*); **4** (*Dholi*); **5** (*Chittorgarh*); **6** (*Patel Nagar*); **7** (*Dungarpur*); **8** (*Kangra*); **9** (*Karnal*); **10** (*Kota*); **11** (*Ludhiana*); **12** (*Pantnagar*); **13** (*Mysore*); **14** (*Mandya*); **15** (*Godhra*); **16** (*Anand*); **17** (*Lakhawali*); **18** (*Sukher*); **19** (*Samastipur*); **20** (*Amberi*).



Figure S2. A. Inoculation of fungal isolates to the leaf whorl in test plants, *Zea mays* at 7-leaf stage to examine the symptoms and pathogenicity; B. Disease rating scale of Payak and Sharma [59].

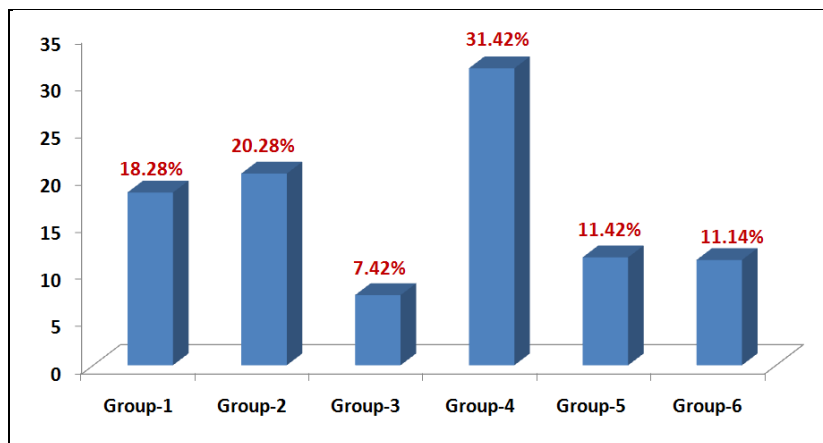


Figure S3. Distribution of morphological and pathogenic variability in the total population of fungal species sampled from six maize production zones of India.