

## Supplementary material for:

Pathogenicity of *Phytophthora*  $\times$  *alni* isolates obtained from symptomatic trees, soil and water

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## Contents

### Tables

**Table S1.** Colonization of shoots 2-year-old seedlings of *Alnus glutinosa* inoculated on shoots with *Phytophthora*  $\times$  *alni* (n=15). Darkened fields indicate dead plants.

**Table S2.** Colonization of *Alnus glutinosa* shoots planted as 2-year-old seedlings in a substrate infected with *Phytophthora*  $\times$  *alni* (n=12). Darkened fields indicate dead plants.

**Table S3.** Re-isolation of *Phytophthora*  $\times$  *alni* species in greenhouse experiments.

**Table S1.** Colonization of shoots 2-year-old seedlings of *Alnus glutinosa* inoculated on shoots with *Phytophthora*  $\times$  *alni* (n=15). Darkened fields indicate dead plants

Isolate number	Length of necrosis on shoots (cm $\pm$ SD)			
	After 1 month	After 4 months	After 11 months	After 15 months
Negative control	0,0 <sup>1</sup> a	0,0 a	0,0 a	0,0 a
PAA1	6,6 e-h $\pm$ 1,72	20,7 f-j $\pm$ 4,49	31,0 ij $\pm$ 7,90 <sup>2</sup>	—
PAA2	6,9 e-h $\pm$ 1,88	23,9 h-j $\pm$ 3,01	33,2 j $\pm$ 3,30 <sup>2</sup>	—
PAA3	5,3 b-g $\pm$ 1,31	18,1 e-g $\pm$ 3,55	24,1 f-h $\pm$ 2,98	31,6 g $\pm$ 3,50
PAA4	6,3 d-h $\pm$ 1,91	18,6 e-h $\pm$ 2,71	25,6 gh $\pm$ 5,05	28,8 fg $\pm$ 4,20
PAA5	6,7 e-h $\pm$ 1,39	30,4 kl $\pm$ 7,42 <sup>2</sup>	—	—
PAA6	7,0 f-h $\pm$ 1,58	21,9 g-j $\pm$ 4,02	25,2 gh $\pm$ 4,43	28,2 e-g $\pm$ 5,19
PAA7	5,8 c-g $\pm$ 1,92	25,6 jk $\pm$ 2,61	33,8 j $\pm$ 3,63 <sup>2</sup>	—
PAA8	6,6 e-h $\pm$ 2,29	19,5 e-h $\pm$ 2,29	23,6 f-h $\pm$ 2,50	27,2 ef $\pm$ 3,53
PAA9	6,9 e-h $\pm$ 2,06	25,3 i-k $\pm$ 2,94	32,2 j $\pm$ 5,63 <sup>2</sup>	—
PAA10	5,2 b-g $\pm$ 1,83	15,4 d-f $\pm$ 4,91	20,6 ef $\pm$ 3,10	24,4 de $\pm$ 3,20
PAA11	5,9 c-h $\pm$ 3,33	30,7 kl $\pm$ 7,71 <sup>2</sup>	—	—
PAA12	7,5 gh $\pm$ 2,29	23,9 h-j $\pm$ 3,09	27,4 hi $\pm$ 2,23	31,6 g $\pm$ 2,40
PAA13	7,5 f-h $\pm$ 2,16	19,9 e-i $\pm$ 4,89	24,3 f-h $\pm$ 4,22	31,2 g $\pm$ 5,63
PAA14	7,7 gh $\pm$ 1,58	31,1 l $\pm$ 10,12 <sup>2</sup>	—	—
PAA15	42,2 j $\pm$ 4,31 <sup>2</sup>	—	—	—

PAA16	39,0 i ± 4,30 <sup>2</sup>	—	—	—
PAA17	38,2 i ± 1,96 <sup>2</sup>	—	—	—
PAA18	39,0 i ± 2,33 <sup>2</sup>	—	—	—
PAA19	3,5 b-d ± 0,73	8,9 bc ± 2,07	13,5 c ± 1,23	16,1 c ± 1,88
PAA20	3,9 b-e ± 0,89	12,6 cd ± 3,05	15,0 cd ± 2,73	18,5 c ± 2,69
PAA21	4,4 b-f ± 1,66	19,1 e-h ± 3,81	23,0 e-g ± 2,82	25,4 d-f ± 2,72
PAA22	3,5 b-d ± 1,05	14,5 de ± 3,39	18,9 de ± 5,30	22,4 d ± 5,12
PAA23	3,0 a-c ± 1,00	6,2 b ± 1,33	7,6 b ± 1,15	10,5 b ± 1,22
PAA24	2,5 ab ± 0,71	6,6 b ± 2,00	8,9 b ± 1,79	11,9 b ± 1,74
PAA25	2,6 ab ± 0,55	6,8 b ± 2,36	9,0 b ± 2,11	11,1 b ± 2,43
PAA26	37,7 i ± 4,02 <sup>2</sup>	—	—	—
PAA27	40,0 ij ± 5,77 <sup>2</sup>	—	—	—
PAA28	0,0 a	0,0 a	0,0 a	0,0 a
CBS 117375	8,9 h ± 1,61	33,7 i ± 7,84 <sup>2</sup>	—	—

<sup>1</sup> means in the columns, followed by the same letter, were not significantly different using Tukey HSD test at p=0.05,

<sup>2</sup> plants whose main shoot died were not taken for statistical analysis in the following months

**Table S2.** Colonization of *Alnus glutinosa* shoots planted as 2-year-old seedlings in a substrate infected with *Phytophthora ×alni* (n=12). Darkened fields indicate dead plants.

Isolate number	Length of necrosis on shoots (cm ± SD)			
	After 1 month	After 4 months	After 11 months	After 15 months
Kontrola negatywna	0,0 <sup>1</sup> a	0,0 a	0,0 a	0,0 a
PAA1	14,2 h-i ± 4,21	21,8 cd ± 11,45	25,7 e ± 10,20	29,8 d-f ± 9,02
PAA2	11,3 f-i ± 6,26	17,0 b-d ± 6,21	21,3 cd ± 6,06	26,1 c-f ± 6,25
PAA3	11,2 f-i ± 2,23	17,4 b-d ± 2,26	22,5 cd ± 2,27	28,1 c-f ± 2,35
PAA4	7,8 d-f ± 2,29	14,3 b ± 2,21	18,2 c ± 2,40	23,2 c ± 2,70
PAA5	8,5 fg ± 5,20	16,3 b-d ± 5,41	20,7 cd ± 5,82	25,8 c-f ± 6,02
PAA6	11,8 f-i ± 2,80	18,4 b-d ± 2,20	22,4 cd ± 2,24	28,0 c-f ± 2,22
PAA7	9,1 f-h ± 2,46	15,6 b-d ± 5,04	20,8 cd ± 4,99	25,5 c-f ± 5,17
PAA8	8,1 e-g ± 4,08	15,1 bc ± 4,58	19,5 cd ± 4,85	24,4 cd ± 5,76
PAA9	7,4 b-e ± 4,46	13,2 b ± 4,56	17,8 c ± 4,68	22,3 c ± 4,48
PAA10	10,2 f-i ± 5,65	17,4 b-d ± 5,81	21,3 cd ± 5,45	26,5 c-f ± 5,66
PAA11	7,3 b-e ± 3,90	13,1 b ± 5,11	18,0 c ± 5,45	23,0 c ± 5,52
PAA12	7,6 c-e ± 4,06	13,5 b ± 3,98	18,1 c ± 3,72	23,9 c ± 4,04
PAA13	7,3 b-e ± 4,77	13,5 b ± 4,86	19,0 cd ± 5,29	24,6 c-e ± 4,94
PAA14	15,3 i ± 2,70	22,0 d ± 2,54	26,6 e ± 2,27	31,0 f ± 2,15
PAA15	28,3 j-l ± 6,12	45,6 f ± 7,41 <sup>2</sup>	—	—
PAA16	30,0 j-l ± 5,34	47,4 f ± 4,58 <sup>2</sup>	—	—
PAA17	31,3 l ± 3,47	48,3 f ± 3,78 <sup>2</sup>	—	—
PAA18	30,2 kl ± 6,19	46,8 f ± 5,55 <sup>2</sup>	—	—
PAA19	1,9 ab ± 1,31	5,2 a ± 1,34	8,3 b ± 1,35	11,3 b ± 1,37
PAA20	2,3 a-c ± 1,88	5,2 a ± 1,88	8,0 b ± 2,45	11,0 b ± 3,02
PAA21	2,1 ab ± 2,27	4,7 a ± 3,41	6,9 b ± 3,54	9,7 b ± 4,09
PAA22	2,5 a-d ± 1,88	5,8 a ± 2,00	8,5 b ± 1,97	11,5 b ± 1,76
PAA23	2,9 a-e ± 2,16	6,2 a ± 2,60	8,9 b ± 2,76	11,5 b ± 3,18
PAA24	1,4 a ± 1,40	4,1 a ± 1,99	7,0 b ± 2,24	9,4 b ± 2,51
PAA25	2,2 a-c ± 1,37	5,0 a ± 1,80	7,7 b ± 1,51	11,0 b ± 1,25
PAA26	24,7 i ± 4,05	37,5 e ± 4,83 <sup>2</sup>	—	—
PAA27	24,9 jk ± 3,60	35,3 e ± 5,75 <sup>2</sup>	—	—
PAA28	15,0 i ± 3,26	21,2 cd ± 3,24	26,0 e ± 3,30	30,4 ef ± 3,14
CBS 117375	13,5 g-i ± 1,57	19,5 b-d ± 2,94	24,3 d ± 3,57	30,3 ef ± 3,14

<sup>1</sup> means in the columns, followed by the same letter, were not significantly different using Tukey HSD test at p=0.05,

<sup>2</sup> plants whose main shoot died were not taken for statistical analysis in the following months

**Table S3.** Re-isolation of *Phytophthora ×alni* species in greenhouse experiments

Isolate number	Re-isolation of <i>Phytophthora ×alni</i> (shoot inoculation)			Re-isolation of <i>Phytophthora ×alni</i> (substrate infected)		
	Shoot	Roots	Substrate	Shoot	Roots	Substrate
Negative control	– <sup>1</sup>	–	–	–	–	–
PAA1	+	–	–	+	+	+
PAA2	+	–	–	+	+	+
PAA3	+	–	–	+	+	+
PAA4	+	–	–	+	+	+
PAA5	+	–	–	+	+	+
PAA6	+	–	–	+	+	+
PAA7	+	–	–	+	+	+
PAA8	+	–	–	+	+	+
PAA9	+	–	–	+	+	+
PAA10	+	–	–	+	+	+
PAA11	+	–	–	+	+	+
PAA12	+	–	–	+	+	+
PAA13	+	–	–	+	+	+
PAA14	+	–	–	+	+	+
PAA15	+	+	+	+	+	+
PAA16	+	+	+	+	+	+
PAA17	+	+	+	+	+	+
PAA18	+	+	+	+	+	+
PAA19	+	–	–	+	+	+
PAA20	+	–	–	+	+	+
PAA21	+	–	–	+	+	+
PAA22	+	–	–	+	+	+
PAA23	+	–	–	+	+	+
PAA24	+	–	–	+	+	+
PAA25	+	–	–	+	+	+
PAA26	+	+	+	+	+	+
PAA27	+	+	+	+	+	+
PAA28	+	–	–	+	+	+
CBS117375	+	–	–	+	+	+

<sup>1</sup> – no pathogen after re-isolation; + presence of pathogen after re-isolation