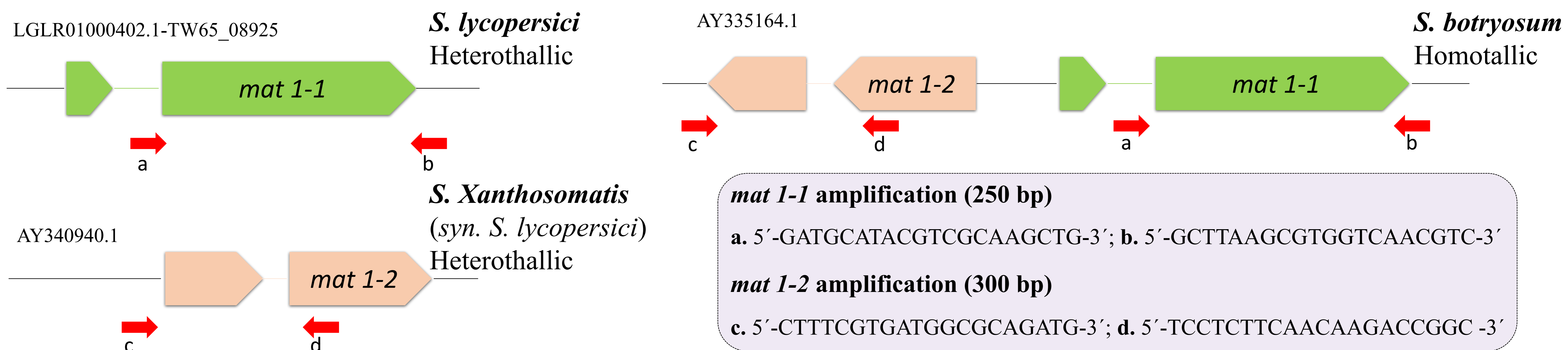


## INTRODUCTION

In filamentous ascomycetes, self-sterility as well as fertility depend on the mating-type (MAT) *locus*, whose genes code transcription factors, peptide pheromones and their corresponding receptors [1]. Heterothallism (self-sterility) occurs between two fungal strains with compatible mating types [2]. On the contrary, homothallism refers to a self-fertile organism with a complete sexual cycle [3]. Heterothallic species are characterized by the presence in each isolate of only one idiomorph, either MAT1-1 or MAT1-2, while both types are present in homothallic species [4]. Interestingly, some *Stemphylium* species are homothallic, others are heterothallic [2]. Till now, the teleomorphic state of *Stemphylium lycopersici* has not been described [1]. Here we report that we found the idiomorph within a collection of isolates of *S. lycopersici* [5].

## METHODS

Based on available sequences of representatives of *Stemphylium* (AY335164.1, AY340940.1 and LGLR01000402.1-TW65\_08925) a set of specific primers aimed at amplifying the MAT *loci* was design using Geneious v9.1.8. A multiplex PCR was performed to determine the mating types of *S. lycopersici* isolates in a single PCR run.

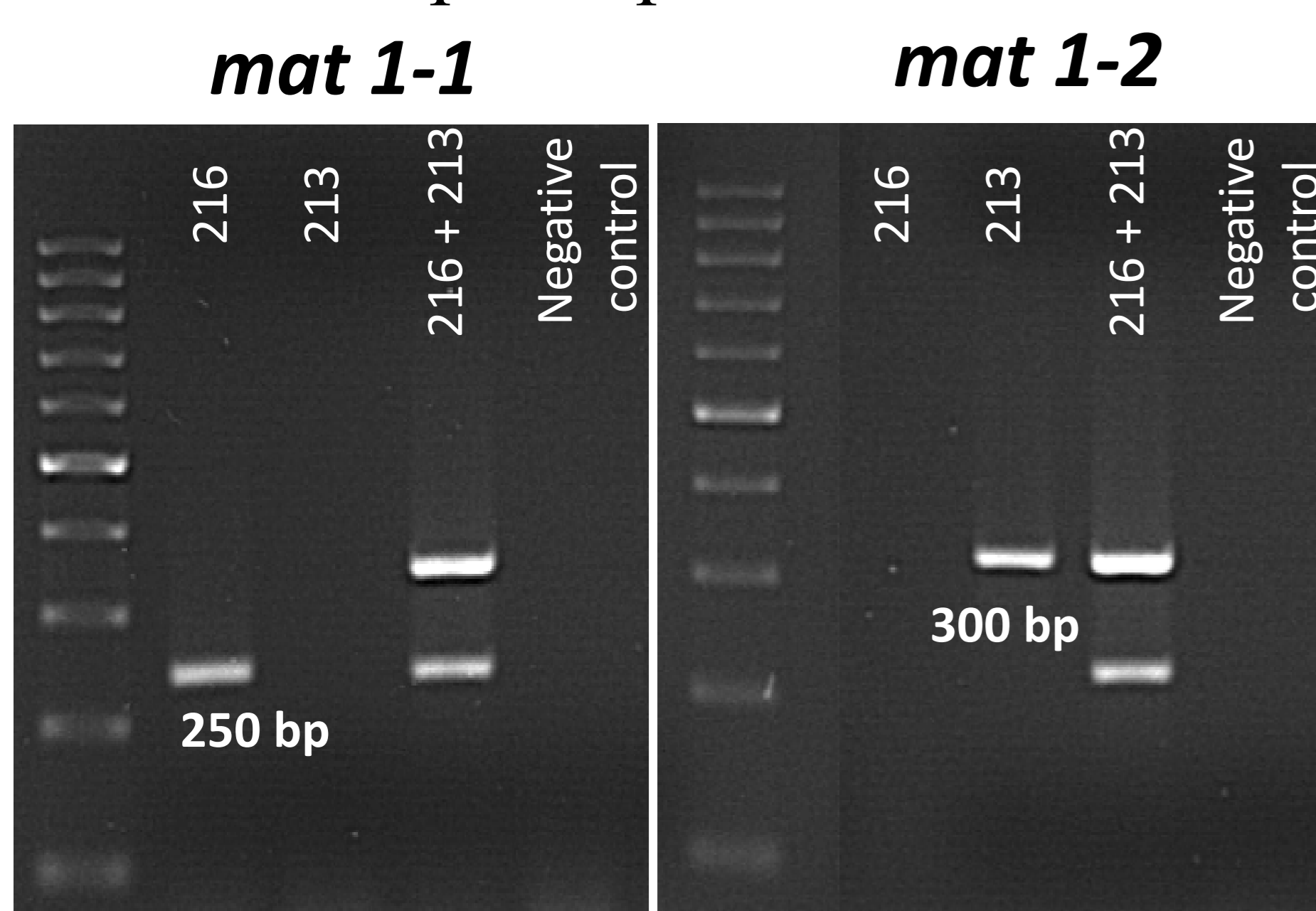


## RESULTS

*Stemphylium lycopersici* available draft genomes: CIDEFI 213 (*mat 1-2*) and CIDEFI 216 (*mat 1-1*). Genomic DNA of CIDEFI 213 (213) and CIDEFI 216 (216) strains were used in order to set up mutiplex PCR aimed at identifying idiomorphs.

### PCR- multiplex optimization

### Screening on CIDEFI collection



Isolate	Site of sampling	Cultivar	Year	Idiomorph
CIDEFI 213	La Plata	Elpida	2011	<i>mat 1-2</i>
CIDEFI 216	Bella Vista	Elpida	2010	<i>mat 1-1</i>
CIDEFI 217	Lavalle	Torry	2011	<i>mat 1-1</i>
CIDEFI 219	Lavalle	Torry	2011	<i>mat 1-1</i>
CIDEFI 226	La Plata	Platense	2013	<i>mat 1-1</i>
CIDEFI 237	Quinta Goita	Tolerant hybrid	2015	<i>mat 1-1</i>
CIDEFI 239	Quinta Goita	Tolerant hybrid	2015	<i>mat 1-1</i>
CIDEFI 240	Quinta Goita	Susceptible hybrid	2015	<i>mat 1-1</i>
CIDEFI 241	Quinta Goita	Susceptible hybrid	2015	<i>mat 1-1</i>
CIDEFI 245	Quinta Goita	R8 hybrid	2015	<i>mat 1-1</i>

Isolate	Site of sampling	Cultivar	Year	Idiomorph
CIDEFI 246	Quinta Goita	R8 hybrid	2015	<i>mat 1-1</i>
CIDEFI 247	Quinta Goita	R29 hybrid	2015	<i>mat 1-1</i>
CIDEFI 248	Quinta Goita	R29 hybrid	2015	<i>mat 1-1</i>
CIDEFI 249	Quinta Goita	R9 hybrid	2015	<i>mat 1-1</i>
CIDEFI 251	Quinta Goita	R9 hybrid	2015	<i>mat 1-1</i>
CIDEFI 261	El Algarrobal	Yigido	2016	<i>mat 1-1</i>
CIDEFI 263	El Algarrobal	Yigido	2016	<i>mat 1-1</i>
CIDEFI 271	El Algarrobal	Dumas	2016	<i>mat 1-2</i>
CIDEFI 272	Santa Lucia	Margarita (pepper)	2016	<i>mat 1-2</i>
CIDEFI 274	Santa Lucia	Margarita (pepper)	2016	<i>mat 1-1</i>

We found that each of the 20 *S. lycopersici* isolates contained only one idiomorph; while 85% belonged to the *mat 1-1* type, the remaining 15% belonging to the *mat 1-2* type.

## CONCLUSION

The idiomorphs of the isolates were unrelated with the place and plant of isolation, suggesting that idiomorphs are living together within the same environment. The marked prevalence of the idiomorph *mat 1-1* over the idiomorph *mat 1-2* may explain why the teleomorphic state has not been found yet. Future studies *in-vitro* might be performed in order to evaluate the occurrence of the sexual cycle of *Stemphylium lycopersici*.

**Bibliography.** [1]. Inderbitzin et al., 2005. *PNAS*, 102(32), 11390-11395. [2]. Coppin et al. 1997. *Microbiol. Mol. Biol. Rev.* 61, 411– 428. [3]. Yun et al., 1999. *Proc. Natl. Acad. Sci. USA* 96, 5592–5597. [4]. Franco et al., 2017. *Jornadas Argentinas de Botánica y Reunión Anual de la Sociedad de Botánica de Chile*. [5]. Franco et al., 2017. *Eur. J. Plant. Pathol.* 149(4), 983-1000.