Supplementary Material

Variations in the identity and complexity of endosymbiont combinations in whitefly hosts

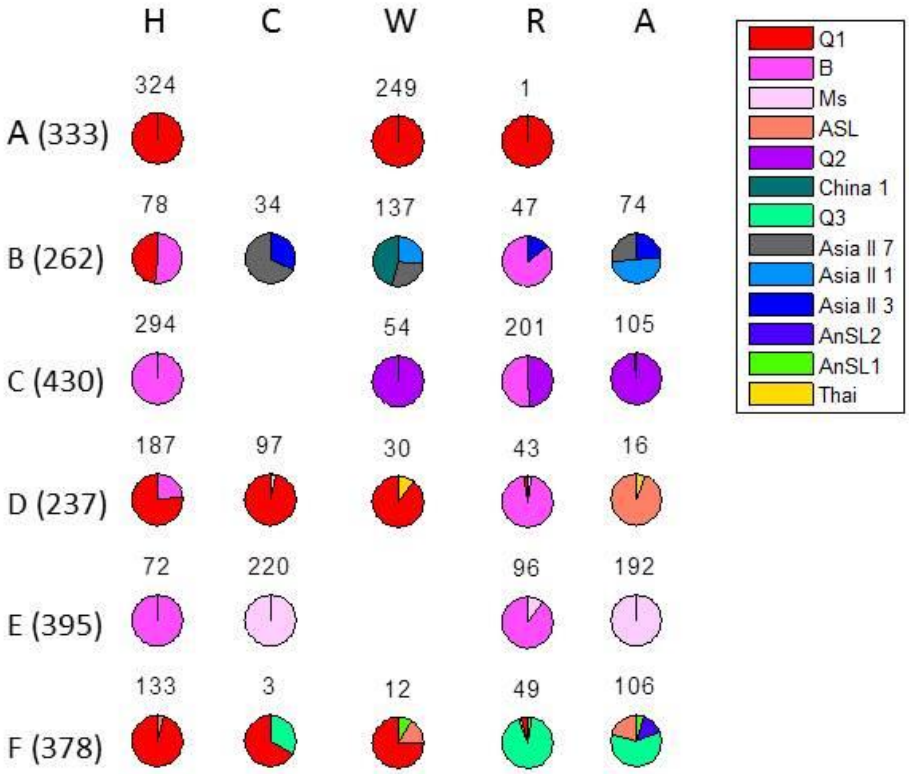
Einat Zchori-Fein[1], Tamar Lahav[2], and Shiri Freilich[2*]

[1]Institute of Plant Protection and [2]Institute of Plant Sciences, The Agricultural Research Organization (ARO), Newe Ya'ar Research Center, Israel.

*** Correspondence:** Shiri Freilich, Institute of Plant Sciences, The Agricultural Research Organization (ARO), Newe Ya'ar Research Center, Ramat Yishay 30095, P.O.B. 1021, Israel. shiri.freilich@gmail.com.

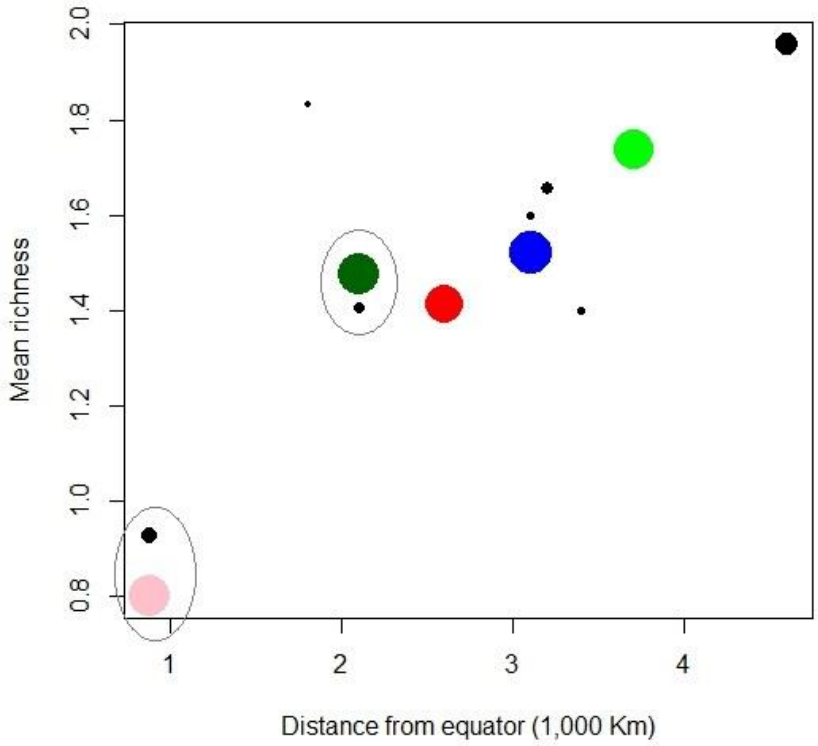
Supplementary Figures

Supplementary Figure 1. The biotype distribution of facultative endosymbionts across the six screenings. Rows represent the six screenings projects reported at the main text. A - Tsagkarakou et al., 2012; B - Bing et al., 2013; C - Zchori-Fein's lab, unpublished. D - Gueguen et al., 2010; E - Thierry et al., 2011; F -Gnankine et al., 2012. Columns represent FSs. A – *Arsenophonus*, C – *Cardinium*, H – *Hamiltonella*, R – *Rickettsia*, W – *Wolbachia*. All facultative symbionts were detected in three of the screenings (B, D, F). The miss identifications of *Arsenophonus* (A) in screening A, *Cardinium* (C) in screening C, and *Wolbachia* (W) in screening E can be related to the absence of the relevant biotypes in the relevant screenings, as can be indicated from the biotype distribution in the columns, pointing at the biotype-endosymbiont associations.

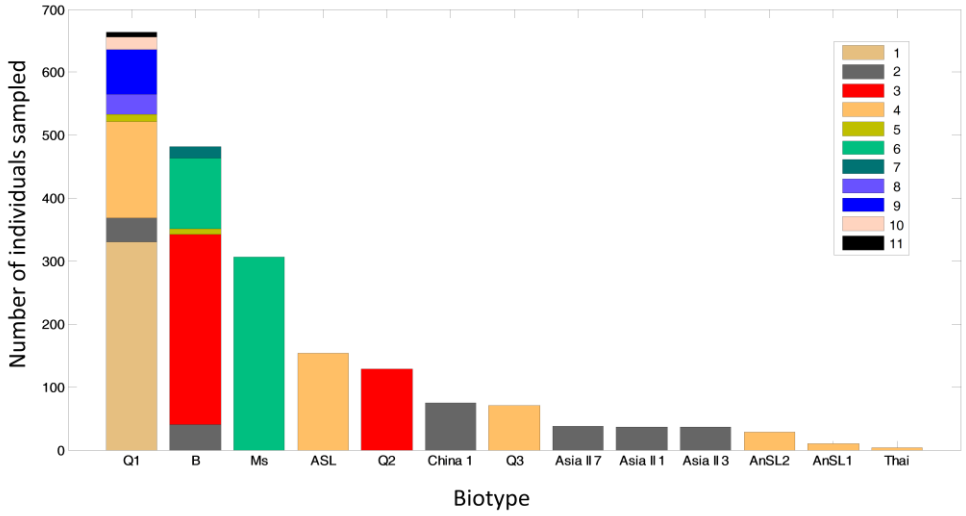


Supplementary Figure 2. The biotype distribution of facultative endosymbionts. Numbers in bracts are the numbers of whitefly individuals sampled, carrying a specific facultative endosymbiont. A – *Arsenophonus*, C – *Cardinium*, H – *Hamiltonella*, R – *Rickettsia*, W – *Wolbachia*. Legneds are as in Supplementary Figure 1.

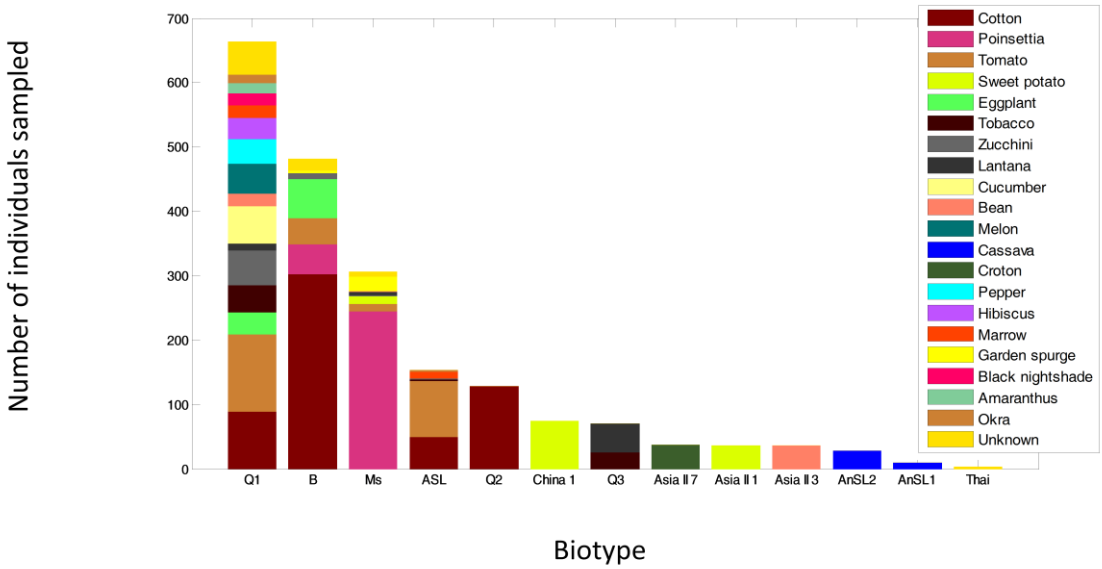
Supplementary Figure 3. Mean genera richness of facultative endosymbiont species co-infecting whitefly individuals in each geographic location (Pearson correlation: 0.73, *P*-value 0.05). Circle sizes indicate the number of sampled individuals. The figure repeats the analysis reported at figure 1 in the main text (left), while further dividing the groups within each location according to its contributing project (Project A: green; project B: red; project C: blue; project D: black; project E: dark green; project F: pink). Groups from similar locations that were analyzed by different laboratories show high similarity in their typical genera richness (indicated by gray circles). A gradient of increasing genera richness with the distance from the equator exists between locations that were analyzed by a single group (black circles).



Supplementary Figure 4. The geographical location distribution of whitefly individuals. Geographic locations are outlined at Figure 1 in the main text.



Supplementary Figure 5. The host-plant distribution of whitefly individuals.



1. Supplementary Tables

Supplementary Table 1. The PCR protocols used for species detection by the different laboratories included in the screening.

Contributing labratory	A (Tsagkarakou et al., 20	B (Bing et al., 2013)	C (Zchori-Fein's lab, unpu	D (Gueguen et al., 2010)	E (Thierry et al., 2011)	F (Gnankine et al., 2012)
DNA extraction	Lysis buffer	Lysis buffer, following	Lysis buffer, following	Extraction with chelex, fo	Lysis buffer (no ref.)	Lysis buffer (no ref.)
	similar to Bing but not	De Barro and Driver (199	Frohlich et al. (1999)	Walsh et al. 1991	similar to Bing but not	similar to Bing et al. but not
	identical	and Frohlich et al. (1999)		and lysis buffer following	identical	identical
				Delatte et al. 2005		
Primers used to detect						
symbionts:						
Portiera		Por-F, Por-R		Por-F, Por-R	Port-F,Port-R	Por-F, Por-R
		(Zchori-Fein&Brown, 2002)		(Zchori-Fein&Brown, 200	(Thierry et al. 2011)	(Zchori-Fein &Brown, 2002)
Primers Tm		60,58		60,57	52	58
Hamiltonella	Ham-F, Ham-R	Ham-F, Ham-R	Ham-F, Ham-R	Ham-F, Ham-R	Ham-F, Ham-R	Ham-F, Ham-R
	(Zchori-Fein&Brown, 200	(Zchori-Fein&Brown, 200	(Zchori-Fein&Brown, 200	(Zchori-Fein&Brown, 200	(Zchori-Fein&Brown, 200	(Zchori-Fein&Brown, 2002)
Primers Tm	58	60,58	58	58	58	58
Rickettsia	Rb-F, Rb-R	Rb-F, Rb-R	Rb-F, Rb-R	Rb-F, Rb-R	Rb-F, Rb-R	Rb-F, Rb-R
	(Gottlieb et al., 2006)	(Gottlieb et al., 2006)	(Gottlieb et al., 2006)	(Gottlieb et al., 2006)	(Gottlieb et al., 2006)	(Gottlieb et al., 2006)
Primers Tm	58	59	58	58	58	58
Wolbachia	WSP-F,WSP-R	Wol-16S-F, Wol-16S-R	Woll16SF,Woll16SR	81F, 415R	81-F,598-R	81F, 415R
	(Zhou et al.,1998)	(Chiel et al., 2007)	(Heddi et al., 1999)	(Braig et al., 1998), (Vaut	(Braig et al. 1998)	(Braig et al. 1998), (Vautrin 20
Primers Tm	55	55	55	56	45	56
Cardinium	CFB-F,CFB-R	Ch-F, Ch-R	CFB-F,CFB-R	CFB-F,CFB-R	CFB-F,CFB-R	CFB-F,CFB-R
	(Weeks et al. 2003)	(Zchori-Fein et al., 2004)	(Weeks et al. 2003)	(Weeks et al., 2003)	(Weeks et al. 2003)	(Weeks et al. 2003)
Primers Tm	56	57	56	56	56	56
Arsenophonus	Ars23S-1,Ars23S-2	Ars23S-1,Ars23S-2	Ars23S-1,Ars23S-2	Ars23S-1,Ars23S-2	Ars23S-1,Ars23S-2	Ars23S-1,Ars23S-2
	(Thao & Baumann, 2004	(Thao&Baumann, 2004)	(Thao & Baumann, 2004)	(Thao&Baumann, 2004)	(Thao & Baumann, 2004)	(Thao & Baumann, 2004)
Primers Tm	60	60.5	60	60	60	60
Fritschea bemisiae			U23F, 23SIGR	Frit-F,Frit-R		Frit-F,Frit-R
			(Everett et al., 2005)	(Thao et al. 2003)		(Thao et al. 2003)
Primers Tm			60	62		60

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