

1 **Electronic Supplementary Material**

## 2 Table S1 The application of molecular markers in IAIPs in China

Order and species of IAIPs	References (molecular marker used)
<b>Blattodea</b>	
<i>Blattella germanica</i>	Yao 2001 (RAPD); Wang <i>et al.</i> 2015 (SSR)
<i>Periplaneta americana</i>	Yao 2001 (RAPD); Lin <i>et al.</i> 2008 (RAPD)
<i>Periplaneta australasiae</i>	Lin <i>et al.</i> 2008 (RAPD); Gao 2016 (SSR, SNP)
<b>Isoptera</b>	
<i>Coptotermes gestroi</i>	Zhang <i>et al.</i> 2010 (16S); Quan 2012 (COII, ITS); Zhang <i>et al.</i> 2012 (ITS)
<i>Reticulitermes speratus</i>	Deng <i>et al.</i> 2016 (COII)
<b>Thysanoptera</b>	
<i>Echinothrips americanus</i>	Wei <i>et al.</i> 2010 (COI)
<i>Frankliniella occidentalis</i>	You <i>et al.</i> 2007 (COI); Zhou <i>et al.</i> 2007 (SS-PCR); Meng 2010 (SCAR, COI); Meng <i>et al.</i> 2010 (SCAR); Yan <i>et al.</i> 2010 (SS-PCR); Jiang <i>et al.</i> 2011 (ISSR); Qiao <i>et al.</i> 2012 (COI); Tang 2012 (qPCR); Yang <i>et al.</i> 2012 (SSR, COI); Duan <i>et al.</i> 2013a (SSR), 2013b (COI); Li <i>et al.</i> 2013 (ISSR)
<i>Rhipiphorothrips cruentatus</i>	Huang <i>et al.</i> 2010 (COI)
<b>Hemiptera</b>	
<i>Aleurodicus disperses</i>	Zhang <i>et al.</i> 2010 (SCAR); Li <i>et al.</i> 2012 (SS-PCR); Yu 2012 (COI, ITS1); Yu <i>et al.</i> 2013 (COI, ITS1); Li 2014 (COI)
<i>Aleyrodes proletella</i>	Chen <i>et al.</i> 2015 (SS-PCR)
<i>Bemisia tabaci</i> (includes <i>B. tabaci</i> B and <i>B. tabaci</i> Q putative species)	Luo <i>et al.</i> 2002 (COI); Qiu <i>et al.</i> 2003 (COI); Chu <i>et al.</i> 2006, 2007, 2008a, 2010 (COI); Chu <i>et al.</i> 2007 (RAPD); Chu <i>et al.</i> 2008b (ISSR); Teng <i>et al.</i> 2010 (SCAR, COI); Chu <i>et al.</i> 2011 (COI, SSR); Pan <i>et al.</i> 2011 (COI); Rao <i>et al.</i> 2011 (COI); Shen <i>et al.</i> 2011 (COI); Chu <i>et al.</i> 2012a (SCAR); Chu <i>et al.</i> 2012b (PCR-RFLP); Chu <i>et al.</i> 2012c, 2013, 2014 (SSR); Shi 2012 (COI, Cytb); Li <i>et al.</i> 2017 (COI)
<i>Trialeurodes vaporariorum</i>	Chu 2004 (SCAR); Gao <i>et al.</i> 2014 (SSR)
<i>Dysmicoccus brevipes</i>	He <i>et al.</i> 2011 (18S, 28S, COI); He 2012 (18S, 28S, COI); Xu <i>et al.</i> 2013 (COI); Xu <i>et al.</i> 2016 (qPCR)
<i>Dysmicoccus neobrevipes</i>	He <i>et al.</i> 2011 (18S, 28S, COI); He 2012 (18S, 28S, COI); Tian 2013 (COI); Xu <i>et al.</i> 2013 (COI); Tao 2014 (SS-PCR); Xu <i>et al.</i> 2016 (qPCR); Ren 2016 (COI); Wang 2016 (COI, 28S)
<i>Matsucoccus matsumurae</i>	Yang <i>et al.</i> 2013 (RAPD)
<i>Oracella acuta</i>	He <i>et al.</i> 2011 (18S, 28S, COI)
<i>Paraleyrodes pseudonaranjae</i>	Zhang <i>et al.</i> 2013 (SS-PCR); Li 2014 (COI)
<i>Phenacoccus manihoti</i>	Wang 2016 (COI, 28S, SS-PCR)
<i>Phenacoccus solenopsis</i>	Chu <i>et al.</i> 2009 (COI); He <i>et al.</i> 2011 (18S, 28S, COI); Tian 2013 (SS-PCR); Tian <i>et al.</i> 2013 (SS-PCR); Luo <i>et al.</i> 2014 (SSR); Tao 2014 (SS-PCR); Li <i>et al.</i> 2015 (SSR); Wang 2016 (COI, 28S); Hu

	<i>et al.</i> 2017 (transcriptome)
<i>Planococcus minor</i>	Xu <i>et al.</i> 2010 (qPCR); He <i>et al.</i> 2011 (18S, 28S, COI); Ren 2016 (COI); Wang 2016 (COI, 28S); Wang <i>et al.</i> 2016 (COI, 28S); Xu 2016 (COI, 28S)
<i>Planococcus lilacius</i>	Xu <i>et al.</i> 2010 (qPCR); Wang 2016 (COI, 28S)
<i>Viteus vitifoliae</i> ( <i>Daktulosphaira vitifoliae</i> )	Sun <i>et al.</i> 2009 (COI); Yu <i>et al.</i> 2016 (SS-PCR)
<i>Eriosoma lanigerum</i>	Wu 2009 (SSR); Zhou <i>et al.</i> 2015 (SSR)
<i>Corythucha ciliate</i>	Lu <i>et al.</i> 2011 (COI, 28S )
<b>Coleoptera</b>	
<i>Acanthoscelides macrophthalmus</i>	Wu <i>et al.</i> 2014 (COI, 12S)
<i>Acanthoscelides obtectus</i>	Lin 2008 (SS-PCR); Lin <i>et al.</i> 2011 (SS-PCR )
<i>Anthrenus verbasci</i>	Deng <i>et al.</i> 2014 (COI)
<i>Brontispa longissima</i>	Huang <i>et al.</i> 2006 (5.8S, ITS1, ITS2)
<i>Bruchus pisorum</i>	Xu 2007 (Cytb, COI, ITS2)
<i>Bruchus rufimanus</i>	Xu 2007 (Cytb, COI, ITS2)
<i>Callosobruchus analis</i>	Gu <i>et al.</i> 2010 (PCR-RFLP )
<i>Callosobruchus maculatus</i>	Xu 2007 (Cytb, COI, ITS2); Lin 2008 (SS-PCR ); Gu <i>et al.</i> 2010 (PCR-RFLP )
<i>Cryptorrhynchus lapathi</i>	Ma <i>et al.</i> 2010 (PCR-RFLP)
<i>Cylas formicarius</i>	Yu <i>et al.</i> 2011 (ITS1)
<i>Dendroctonus valens</i>	Yin <i>et al.</i> 2012 (COI); Hua <i>et al.</i> 2014 (COI); Yin <i>et al.</i> 2014 (COI)
<i>Heterobostrychus aequalis</i>	Shu 2010 (RAPD, COI)
<i>Hypera postica</i>	Pu 2016 (COI)
<i>Leptinotarsa decemlineata</i>	Liu <i>et al.</i> 2016 (SSR, RAPD)
<i>Lissorhoptrus oryzophilus</i>	Liu <i>et al.</i> 2016 (ISSR); Wang <i>et al.</i> 2016 (RAPD)
<i>Rhyzopertha dominica</i>	Song 2011 (AFLP, COI)
<i>Rhynchophorus ferrugineus</i>	Wang 2014 (COI, SSR)
<i>Sitophilus oryzae</i>	Yue <i>et al.</i> 2011 (COI)
<i>Trogoderma granarium</i>	Ma <i>et al.</i> 2009 (COI); Chen <i>et al.</i> 2010 (SS-PCR ); Deng <i>et al.</i> 2014 (COI)
<i>Tribolium confusum</i>	Ming <i>et al.</i> 2013 (28S, COI); Zhang <i>et al.</i> 2014 (PCR-RFLP)
<i>Xylotrechus rusticus</i>	Ma <i>et al.</i> 2010 (PCR-RFLP)
<b>Diptera</b>	
<i>Bactrocera (Bactrocera) correcta</i>	Zhu <i>et al.</i> 2005 (Cytb); Liu 2012 (COI); Jiang 2015 (COI, SS-PCR, qPCR, IFC chip)
<i>Bactrocera (Zeugodacus) cucurbitae</i>	Zhu <i>et al.</i> 2005 (Cytb); Zhang 2007 (RAPD, ISSR, Cytb); Liu 2012 (COI); Jiang 2015 (COI, SS-PCR, qPCR, IFC chip)
<i>Bactrocera dorsalis</i>	Zhu <i>et al.</i> 2005 (Cytb); Xu <i>et al.</i> 2007 (COI); Zhang 2007 (RAPD, SSR, Cytb); Wan <i>et al.</i> 2010 (SSR); Jiang 2015 (COI, SS-PCR, qPCR, IFC chip); Wang <i>et al.</i> 2016 (COI);
<i>Bactrocera (Bactrocera) latifrons</i>	Jiang 2015 (COI, SS-PCR, qPCR, IFC chip)
<i>Bactrocera (Tetradacus) tsuneonis</i>	Jiang 2015 (COI, SS-PCR, qPCR, IFC chip)
<i>Carpomyia vesuviana</i>	Cheng <i>et al.</i> 2013 (SS-PCR)

<i>Liriomyza sativae</i>	Guan <i>et al.</i> 2006 (PCR–RFLP); Wang <i>et al.</i> 2007 (ITS1); Chen <i>et al.</i> 2009 (PCR–RFLP); Zhang <i>et al.</i> 2012 (SS–PCR)
<i>Liriomyza huidobrensis</i>	Chen <i>et al.</i> 2002 (PCR–RFLP); Shi 2002 (ITS); Chen <i>et al.</i> 2009 (PCR–RFLP); Wang 2010 (COII)
<i>Liriomyza bryoniae</i>	Chen <i>et al.</i> 2002 (PCR–RFLP)
<i>Liriomyza trifolii</i>	Shi 2002 (ITS); Guan <i>et al.</i> 2006 (PCR–RFLP); Feng 2007 (qPCR, COI); Chen <i>et al.</i> 2009 (PCR–RFLP); Wang 2010 (ITS2, COI, COII); Hu <i>et al.</i> 2012 (SS–PCR); Guo <i>et al.</i> 2013 (COI, ITS1)
<i>Obolodiplosis robiniae</i>	Shang 2016 (COI, SSR); Shang <i>et al.</i> 2016 (SSR)
<b>Lepidoptera</b>	
<i>Corcyra cephalonica</i>	Wu 2013 (COI)
<i>Cydia pomonella</i>	Dong 2010 (COI); Bai <i>et al.</i> 2011 (qPCR); Feng <i>et al.</i> 2012 (COI); Men 2012 (SSR); Men <i>et al.</i> 2012 (SSR); Li 2013 (COI, COII, Cytb); Li <i>et al.</i> 2013 (COI); Men 2013 (SSR); Li 2015 (COI, COII); Zhang <i>et al.</i> 2015 (SSR)
<i>Hyphantria cunea</i>	Du 2009 (SSR); Kan <i>et al.</i> 2009 (RAPD); Gao <i>et al.</i> 2010 (SSR); Du <i>et al.</i> 2012 (SSR); Liu 2012 (AFLP); Liu <i>et al.</i> 2012 (AFLP); Cao 2016 (SSR)
<i>Opogona sacchari</i>	Shen <i>et al.</i> 2006 (ITS); Wang <i>et al.</i> 2013 (SS–PCR)
<i>Pectinophora gossypiella</i>	Liu <i>et al.</i> 2006 (SSR); Liu <i>et al.</i> 2008 (SSR); Liu <i>et al.</i> 2010 (nad4, COII)
<i>Plodia interpunctella</i>	Tang <i>et al.</i> 2016 (18S rDNA, qPCR)
<b>Hymenoptera</b>	
<i>Apis mellifera</i>	Su and Chen 2002 (RAPD, SSR); Zhang <i>et al.</i> 2011 (AFLP); Zhu <i>et al.</i> 2012 (SSR); Zhu 2013 (SSR)
<i>Solenopsis geminate</i>	Chen <i>et al.</i> 2011 (COI); Xu <i>et al.</i> 2013 (qPCR)
<i>Solenopsis invicta</i>	Chen <i>et al.</i> 2005 (qPCR); He <i>et al.</i> 2006 (COI); Shao 2008 (SSR); Chen <i>et al.</i> 2009 (Cytb, qPCR); Chen <i>et al.</i> 2011 (COI); Xu <i>et al.</i> 2013 (qPCR); Huang <i>et al.</i> 2014 (SSR)

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3 \* RAPD (random amplified polymorphic DNA), ISSR (inter–simple sequence repeat), SSR (simple sequence  
4 repeat or microsatellite locus), SCAR (sequence characterized amplified region), PCR–RFLP (polymerase chain  
5 reaction–restriction fragment length polymorphism), AFLP (amplified fragment length polymorphism), SS–PCR  
6 (species–specific PCR), mitochondrial genes (COI, COII, Cytb, and nad genes), rDNA gene (such as 5.8S rDNA,  
7 16S rDNA, 18S rDNA, and 28S rDNA), rDNA ITS (rDNA inter–transcript spacer region), qPCR (Real–time  
8 quantitative PCR) of the specific gene, and IFC chip (integrated fluidic circuit chip).

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