

**Supplementary Table 1.** Primer similarity comparisons in dipteran leafminers (unshaded) and hymenopteran parasitoids (grey-shaded) COI-tRNA-Leu region DNA sequences (primer locations are shown on Figure 1). Primer length is indicated in brackets below primer names, in base pairs (b.p.). Percentage primer similarity compared with each DNA sequence is indicated / as well as the number of DNA bases that match the final three bases from the 3' end of each primer. Dashes in the table indicate that a DNA sequence was not available on Genbank for that particular primer region.

Group	Genus / Species	Leafminer COI-F (21 b.p.)	Leafminer COI-R (20 b.p.)	LCO (19 b.p.)	HCO (26 b.p.)	C1-J-2183 (23 b.p.)	TL-2-N- 3014 (25 b.p.)	C1-J-2441 (32 b.p.)	TL-N-3017 (28 b.p.)	GenBank Accession	DNA Sequence Reference
Agromyzidae	<i>Liriomyza sativae</i>	100% / 3	100% / 3	89% / 3	88% / 3	96% / 3	100% / 3	97% / 3	100% / 3	NC_015926	Yang <i>et al.</i> , 2011
Agromyzidae	<i>Liriomyza huidobrensis</i>	95% / 3	100% / 3	89% / 3	92% / 3	100% / 3	100% / 3	84% / 2	100% / 3	NC_016716	Yang <i>et al.</i> , 2013
Agromyzidae	<i>Chromatomyia horticola</i>	100% / 3	100% / 3	- / 3	81% / 2	87% / 2	100% / 3	91% / 3	100% / 3	EU443642	Shang <i>et al.</i> , unpublished
Drosophilidae	<i>Scaptomyza flava</i>	95% / 3	95% / 3	- / -	- / -	100% / 3	- / -	84% / 2	- / -	HM991724 HQ170855	Whiteman <i>et al.</i> , 2011 O'Grady <i>et al.</i> , 2011
Chalcidoidea	<i>Nasonia</i>	67% / 1	50% / 1	84% / 3	92% / 3	100% / 3	92% / 3	97% / 3	89% / 2	EU746612	Oliveira <i>et al.</i> , 2008
Chalcidoidea	<i>Philotrypesis</i>	62% / 1	45% / 1	84% / 3	88% / 3	96% / 3	84% / 3	94% / 3	82% / 2	JF808723	Xiao <i>et al.</i> , 2011
Ichneumonoidea	<i>Venturia</i>	62% / 1	60% / 3	89% / 3	92% / 3	96% / 3	N / A <sup>a</sup>	100% / 3	N / A <sup>a</sup>	FJ478176	Dowton <i>et al.</i> , 2009
Ichneumonoidea	<i>Enicospilus</i>	57% / 3	55% / 1	95% / 3	88% / 3	100% / 3	N / A <sup>a</sup>	91% / 2	N / A <sup>a</sup>	FJ478177	Dowton <i>et al.</i> , 2009

**Notes:**

<sup>a</sup> tRNA-Leu, in which primer TL-N-3017 is located (see Figure 1), does not appear to be adjacent to COI in Ichneumonoidea species previously examined, see Dowton *et al.*, 2009.