

Table S1. PCR primers and conditions used in this study. Regarding PCR conditions, 35 cycles were run for *COI* and *18S*, whereas 30 cycles were run for *28S*. Abbreviations: PCR, polymerase chain reaction.

PCR primers					
Markers	Primers	Sequences (5'-3')			References
<i>COI</i>	Fol_Ich_F	TTTCAACAAATCATAAAGATATCGG			Chen et al. (2023)
	Fol_Ich_R	TAAACTTCAGGATGACCAAAAAATCA			
	Lep_F1	ATTCAACCAATCATAAAGATAT			Hebert et al. (2004)
	Lep_R1	TAAACTTCTGGATGTCCAAAAA			
<i>28S</i>	- (F)	GCGAACAAGTACCGTGAGGG			Laurenne et al. 2006
	- (R)	TAGTTCACCATCTTTCGGGTC			
<i>18S</i>	18SF2	CTACCACATCCAAGGAAGGCAG			Rokas et al. 2002
	18SR2	AGAGTCTCGTTCGTTATCGGA			

PCR conditions					
Markers	Primary denaturation	Denaturation	Annealing	Extension	Additional extension
<i>COI</i>	95°C , 4 min	95°C , 30 sec	47°C , 1 min	72°C , 45 sec	72°C , 10 min
<i>28S</i>	95°C , 4 min	96°C , 15 sec	50°C , 30 sec	72°C , 30 sec	75°C , 7 min
<i>18S</i>	94°C , 4 min	95°C , 30 sec	52°C , 30 sec	72°C , 30 sec	72°C , 10 min

References

- Chen H-P, Lin K-T, Wu S (2023) Re-evaluation of the taxonomic confusion of the metallic-blue *Pimpla* Fabricius, 1804 (Hymenoptera: Ichneumonidae: Pimplinae) species in the Oriental region. *Zootaxa* 5357 (2): 270–284.
- Hebert PDN, Penton EH, Burns JM, Janzen DH, Hallwachs W (2004) Ten Species in one: DNA Barcoding Reveals Cryptic Species in the Neotropical Skipper Butterfly *Astrartes fulgerator*. *PNAS* 101 (41): 14812–14817. <https://doi.org/10.1073/pnas.0406166101>
- Laurenne NM, Broad G, Quicke DLJ (2006) Direct optimization and multiple alignment of 28S D2–D3 rDNA sequences: problems with indels on the way to a molecular phylogeny of the cryptine ichneumon wasps (Insecta: Hymenoptera). *Cladistics* 22: 442–473. <https://doi.org/10.1111/j.1096-0031.2006.00112.x>
- Rokas A, Nylander JAA, Ronquist F, Stone GN (2002) A maximum-likelihood analysis of eight phylogenetic markers in gallwasps (Hymenoptera: Cynipidae): implications for insect phylogenetic studies. *Molecular Phylogenetics and Evolution* 22: 206–219. <https://doi.org/10.1006/mpev.2001.1032>