

# Development of a diagnostic tool for the early and reproducible identification of *Bactrocera dorsalis* (Hendel) (Diptera Tephritidae) using Real-Time PCR with TaqMan probe technology

Rizzo Domenico<sup>1</sup>, Zubieta Claudia Gabriela<sup>1</sup>, Sacchetti Patrizia<sup>2</sup>, Andrea Marrucci<sup>1,4</sup>, Miele Fortuna<sup>3</sup>, Ascolese Roberta<sup>3,5</sup>, Nugnes Francesco<sup>3</sup>, Bernardo Umberto<sup>3,\*</sup>

<sup>1</sup> Laboratory of Phytopathological Diagnostics and Molecular Biology, Plant Protection Service of Tuscany, Via Ciliegiole 99, 51100 Pistoia, Italy; domenico.rizzo@regione.toscana.it; claudiagabriela.zubieta@regione.toscana.it; andrea.marrucci93@gmail.com.

<sup>2</sup> University of Florence, Department of Agriculture, Food, Environment and Forestry (DAGRI), Piazzale delle Cascine, 18, 50144 Florence (Italy); patrizia.sacchetti@unifi.it.

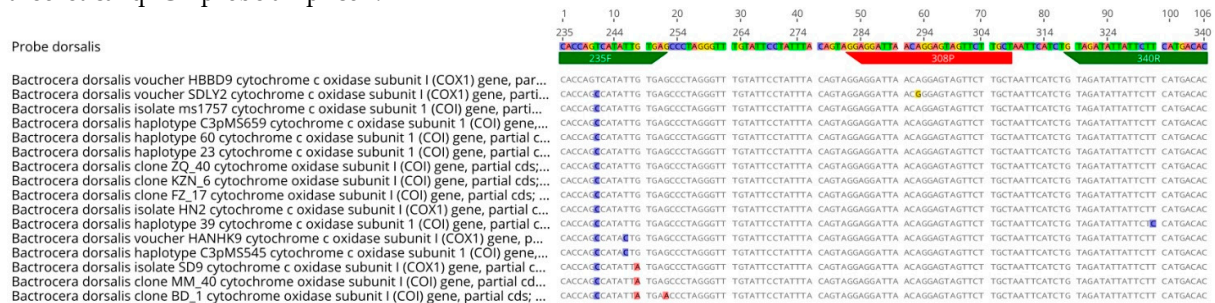
<sup>3</sup> Institute for Sustainable Plant Protection (IPSP) – CNR, P.le Enrico Fermi 1, 80055 Portici, Italy; roberta.ascolese@ipsp.cnr.it; fortuna.miele@ipsp.cnr.it; francesco.nugnes@ipsp.cnr.it; umberto.bernardo@ipsp.cnr.it.

<sup>4</sup> Department of Agricultural Food and Agro-Environmental Sciences, University of Pisa, Via del Borghetto 80, I-56124 Pisa (Italy); andrea.marrucci93@gmail.com.

<sup>5</sup> Department of Biology, University of Naples Federico II, Via Vicinale Cupa Cintia 21, 80126 Napoli (Italy); roberta.ascolese@unina.it.

\* Correspondence: umberto.bernardo@ipsp.cnr.it; Tel.: +3906499327823

**Figure S1.** Inclusiveness of the qPCR probe assay. Eighteen sequences from different populations of *B. dorsalis*, geographically distant, were retrieved from GenBank through alignments based on the in-silico theoretical qPCR probe amplicon.





**Figure S2.** Alignments resulting from the in silico theoretical Probe amplicon and sequences of the related organisms present in GenBank. More than 200 different *Bactrocera* specimens present and detected in different source areas were compared through the sequence alignments in the network.





131. Bactrocera bancroftii voucher ...	CCCCGCGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTACGGAGTGTCTGAGCT	AATTTCATCTGTGATATATTCTTCATGAC
132. Bactrocera amambalensis isul...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
133. Bactrocera dipressa isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
134. Bactrocera gombakensis isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
135. Bactrocera lombokensis vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTGATATATTCTTCATGAC
136. Bactrocera paraearcae isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
137. Bactrocera apiculatus isolate...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
138. Bactrocera hantanae isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
139. Bactrocera quadrata voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
140. Bactrocera melanothoracia v...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
141. Bactrocera nr. quadrata NOD0...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
142. Bactrocera paradiospyri isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
143. Bactrocera ochrosiae isolate ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
144. Bactrocera ceylanica isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
145. Bactrocera bidentata voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
146. Bactrocera decurtans voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
147. Bactrocera kanchanaburi isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
148. Bactrocera osbeckiae voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
149. Bactrocera bivittata isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
150. Bactrocera medionulula isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
151. Bactrocera jarvisi voucher JAR...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
152. Bactrocera perkinsi voucher P...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
153. Bactrocera adamantea vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
154. Bactrocera adamantea vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
155. Bactrocera nigrita voucher UHL...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
156. Bactrocera paramusae vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
157. Bactrocera fuscicornis voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
158. Bactrocera propinqua voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
159. Bactrocera melastomatus vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
160. Bactrocera wuzhishana isolate...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
161. Bactrocera tinomisi voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
162. Bactrocera fuscicornis voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
163. Bactrocera furvilineata vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
164. Bactrocera dorsalisoides isolate ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
165. Bactrocera laticauda voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
166. Bactrocera nr. quadrata NOD0...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
167. Bactrocera illiusculcellaris iso...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
168. Bactrocera eurycosta isolate ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
169. Bactrocera sp. n. I MD5-2015 ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
170. Bactrocera propinqua voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
171. Bactrocera amplexifera voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
172. Bactrocera absidata voucher A...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
173. Bactrocera aeruginosa vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
174. Bactrocera alysiac voucher AL...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
175. Bactrocera batemani voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
176. Bactrocera antigone voucher A...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
177. Bactrocera dongnaiensis isolate ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
178. Bactrocera moluccensis vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
179. Bactrocera aethiopsidis isolat...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
180. Bactrocera facialis voucher FA...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
181. Bactrocera mucronis voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
182. Bactrocera peneobscura vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
183. Bactrocera aurantiaca voucher...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
184. Bactrocera morioensis vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
185. Bactrocera tsatsia voucher UHL...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
186. Bactrocera albidistincta vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
187. Bactrocera distincta voucher D...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
188. Bactrocera unitaeniola vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
189. Bactrocera tapahensis vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
190. Bactrocera curvifera voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
191. Bactrocera resimae voucher RE...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
192. Bactrocera tenuifascia vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
193. Bactrocera fulvicauda voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
194. Bactrocera reduna voucher AEA...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
195. Bactrocera resima voucher RE...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
196. Bactrocera romigae voucher R...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
197. Bactrocera murrayi voucher M...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
198. Bactrocera aurea voucher AEA...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
199. Bactrocera clarifemur voucher...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
200. Bactrocera nigra voucher NIG0...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
201. Bactrocera trilineata isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
202. Bactrocera trigrescens vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
203. Bactrocera lempalis voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
204. Bactrocera ernesti voucher UHL...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
205. Bactrocera continua isolate m...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
206. Bactrocera geminimulata vo...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
207. Bactrocera absidata voucher A...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
208. Bactrocera mayi voucher DMV...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
209. Bactrocera connecta voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
210. Bactrocera visenda NADH de...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
211. Bactrocera brunnea voucher B...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
212. Bactrocera dyscrita voucher D...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
213. Bactrocera endorha voucher B...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
214. Bactrocera unistriata voucher ...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC
215. Bactrocera speculifera vouch...	CCCCAGCATATATGAGCCCTAGGGTTTGTG	TTTATTACAGTAGGAGGATTAAACAGGAGTGTCTTGCT	AATTCATCTGTAGATATATTCTTCATGAC

**Table S1.** Target and non-target list with indication of Cqs detected in single gene amplification reactions with the qPCR probe

Species	Sample code	Concentration	Cq
<i>Anastrepha fraterculus</i> (Wiedemann, 1830)	MR 000752	10 ng/μL	n/a
	MR 000795	10 ng/μL	n/a
<i>Anastrepha leptozona</i> Hendel 1914	MR 000817	10 ng/μL	n/a
	MR 000823	10 ng/μL	n/a
	MR 001658	10 ng/μL	n/a
	MR 000753	10 ng/μL	n/a
<i>Anastrepha ludens</i> (Loew, 1873)	MR 000820	10 ng/μL	n/a
	MR 001659	10 ng/μL	n/a
	MR 001710	10 ng/μL	n/a
	MR 001721	10 ng/μL	n/a
<i>Anastrepha obliqua</i> (Macquart, 1835)	MR 000821	10 ng/μL	n/a
	MR 001715	10 ng/μL	n/a
<i>Anastrepha serpentina</i> (Wiedemann, 1830)	MR 000283	10 ng/μL	n/a
	MR 000822	10 ng/μL	n/a

	MR 001701	10 ng/μL	n/a
	MR 001689	10 ng/μL	n/a
	MR 001722	10 ng/μL	n/a
<i>Bactrocera dorsalis</i> (Hendel, 1912)	MR 001712	10 ng/μL	22.78
	MR 001720	10 ng/μL	21.36
	MR 001709	10 ng/μL	21.40
	MR 001718	10 ng/μL	21.26
	MR 001716	10 ng/μL	21.16
	MR 000814	10 ng/μL	21.12
	MR 001563	10 ng/μL	20.98
	MR 001713	10 ng/μL	21.10
	MR 001638	10 ng/μL	20.87
	MR 001714	10 ng/μL	21.45
	MR 001717	10 ng/μL	21.08
	MR 001711	10 ng/μL	17.56
	MR 001719	10 ng/μL	16.52
	MR 000801	10 ng/μL	17.24
	MR 001683	10 ng/μL	16.87
	MR 001684	10 ng/μL	17.45
	MR 000239	10 ng/μL	17.25
	MR 001697	10 ng/μL	16.98
	MR 001747	10 ng/μL	17.28
	MR 000764	10 ng/μL	17.19
<i>Bactrocera latifrons</i> (Hendel, 1915)	MR 000752	10 ng/μL	n/a
	MR 000823	10 ng/μL	n/a
<i>Bactrocera oleae</i> (Rossi, 1790)	MR 001658	10 ng/μL	n/a
<i>Bactrocera zonata</i> (Saunders, 1842)	MR 000753	10 ng/μL	n/a
<i>Ceratitis capitata</i> (Wiedemann, 1824)	MR 000820	10 ng/μL	n/a
	MR 000821	10 ng/μL	n/a
	MR 000283	10 ng/μL	n/a
	MR 000822	10 ng/μL	n/a
<i>Cydia pomonella</i> (Linnaeus, 1758)	MR 000259	10 ng/μL	n/a
	MR 000790	10 ng/μL	n/a
<i>Grapholita molesta</i> (Busck, 1916)	MR 001617	10 ng/μL	n/a
<i>Rhagoletis cerasi</i> (Linnaeus, 1758)	MR 001618	10 ng/μL	n/a
<i>Rhagoletis completa</i> (Cresson, 1929)	MR 001648	10 ng/μL	n/a
	MR 001619	10 ng/μL	n/a
<i>Thaumatotibia leucotreta</i> (Meyrick, 1913)	MR 001678	10 ng/μL	n/a
	MR 001620	10 ng/μL	n/a
	MR 001621	10 ng/μL	n/a