

Fig. S4 Relative frequency of the *O. x intercedens* calyx types for the sampled individuals.

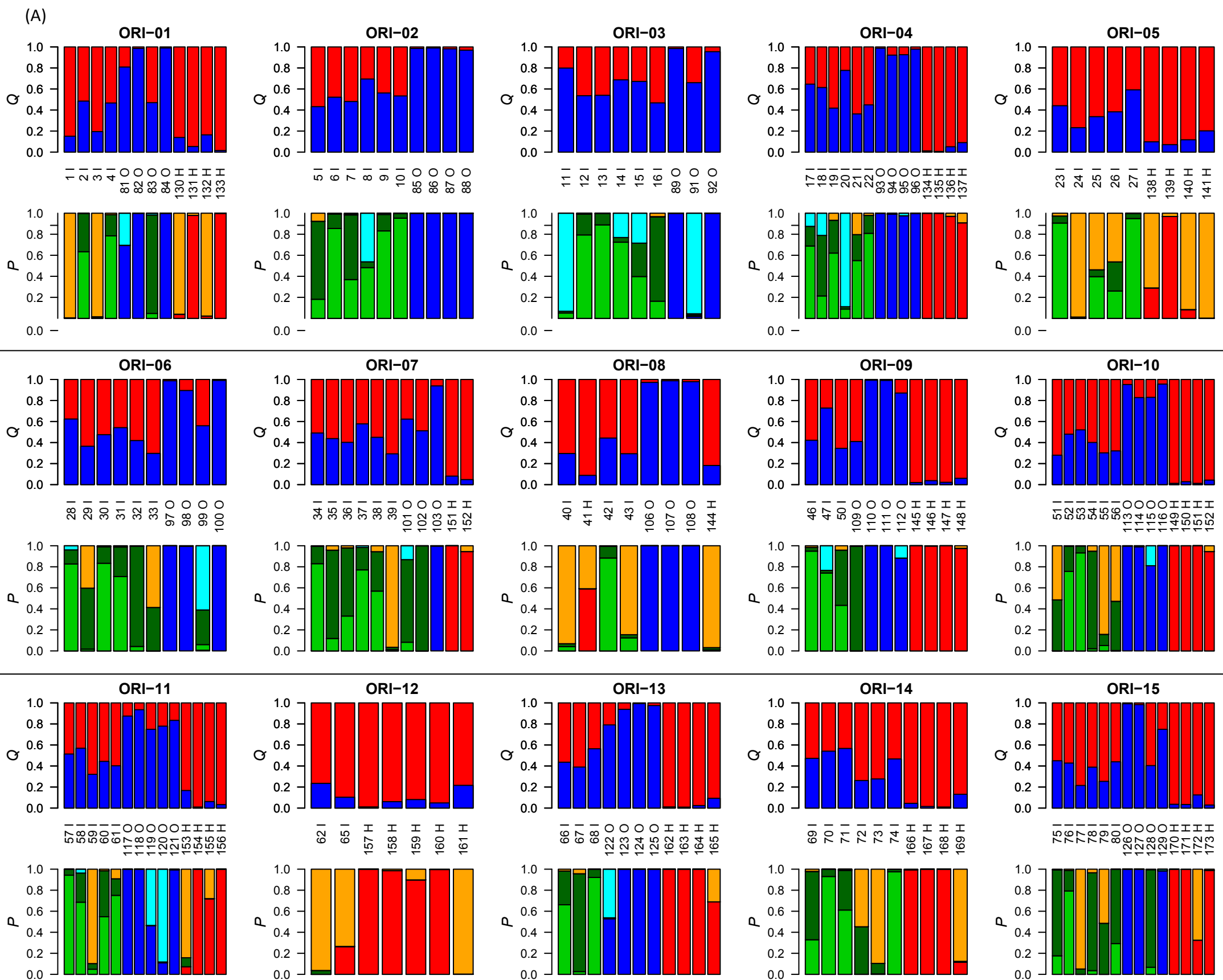
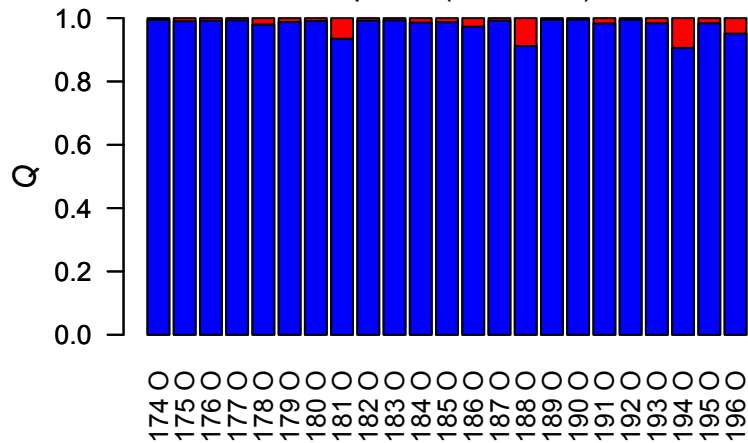
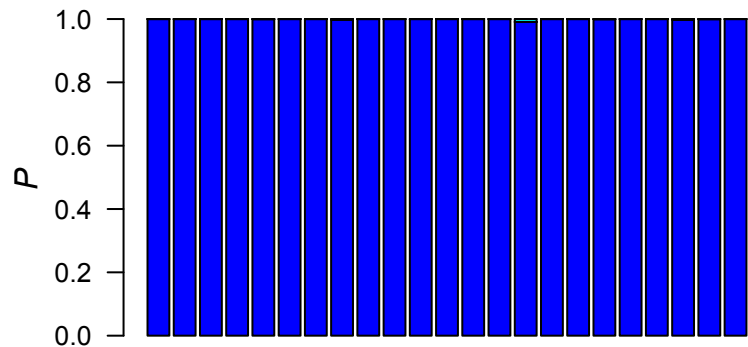
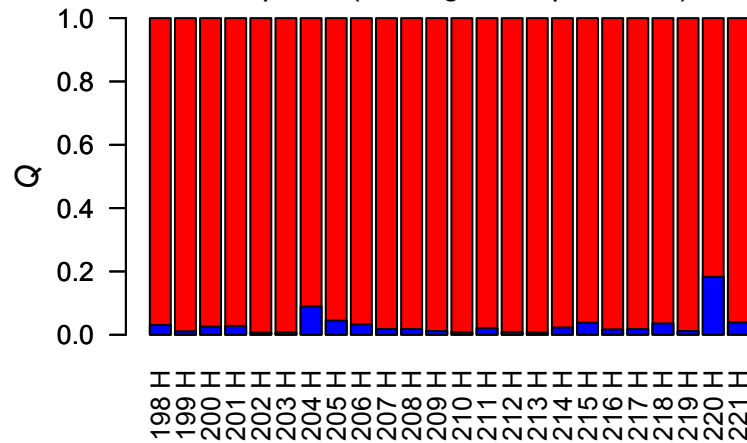


Fig. S5 Bar plots of Q , the estimated membership coefficients for each individual in each cluster from STRUCTURE, and P , the posterior probability estimated from NEWHYBRIDS. The colors correspond to membership values for each genetic category, as shown in the legend. Panel A shows sympatric populations, while panel B shows allopatric populations. Below the bars are the individuals' numbers, along with a letter that indicates the taxa (O for *O. onites*, I for *O. × intercedens* and H for *O. vulgare* ssp. *hirtum*).

(B)

Allopatric (*O. onites*)

174 O
175 O
176 O
177 O
178 O
179 O
180 O
181 O
182 O
183 O
184 O
185 O
186 O
187 O
188 O
189 O
190 O
191 O
192 O
193 O
194 O
195 O
196 O

Allopatric (*O. vulgare ssp. hirtum*)

198 H
199 H
200 H
201 H
202 H
203 H
204 H
205 H
206 H
207 H
208 H
209 H
210 H
211 H
212 H
213 H
214 H
215 H
216 H
217 H
218 H
219 H
220 H
221 H

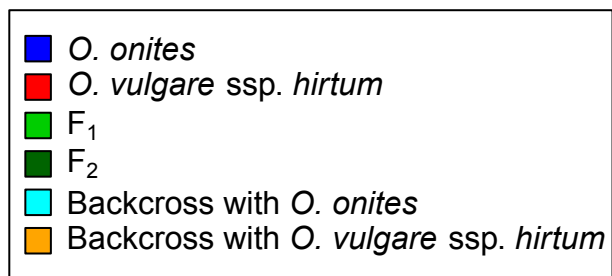
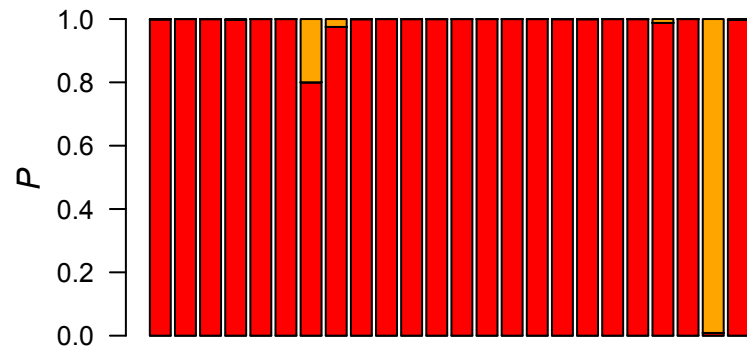


Fig. S5 (Continued)

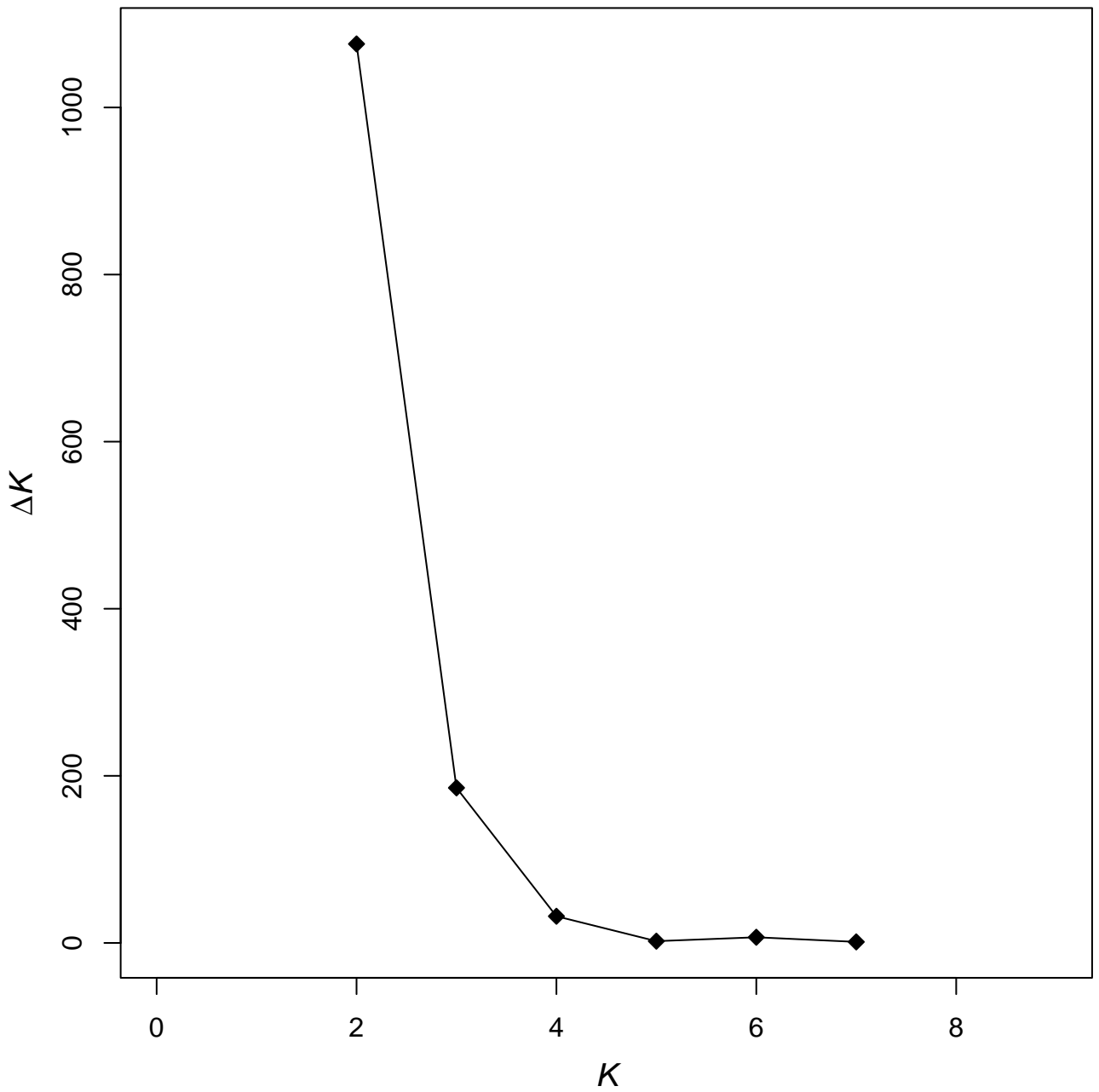


Fig. S6 ΔK calculated according to Evanno et al. (2005) for each $K=1-8$.

G-space

E-space

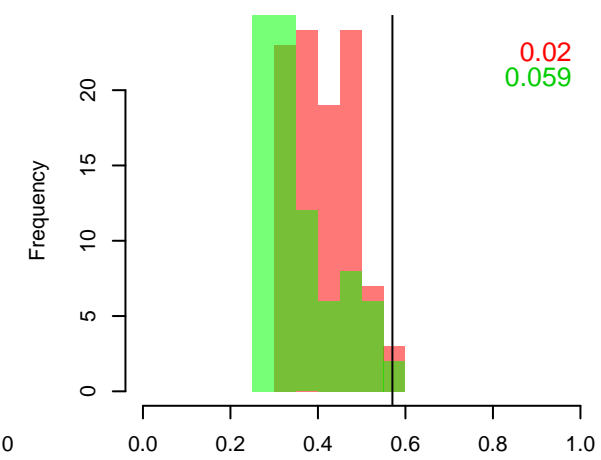
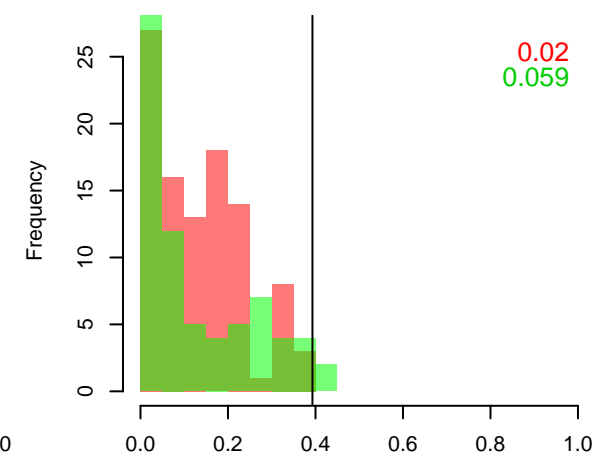
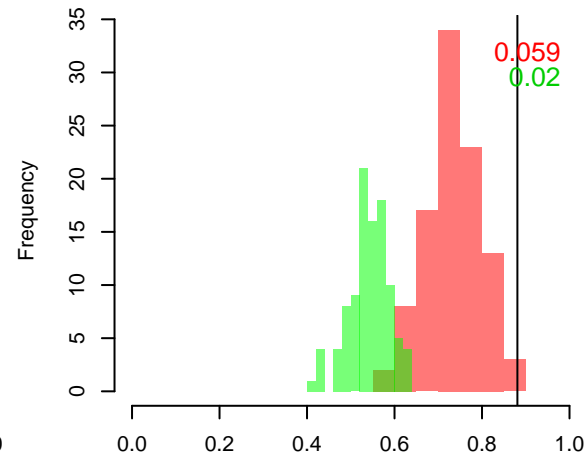
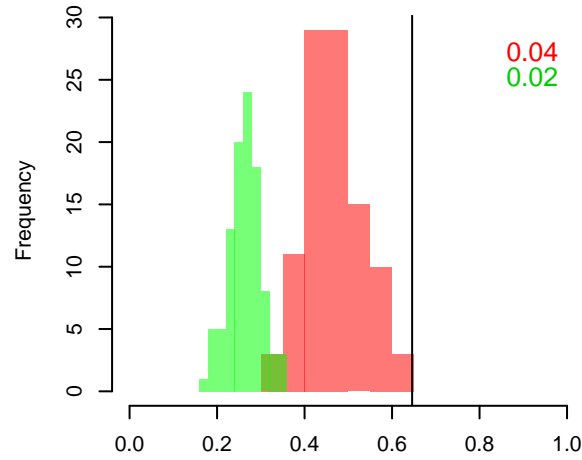
D

I

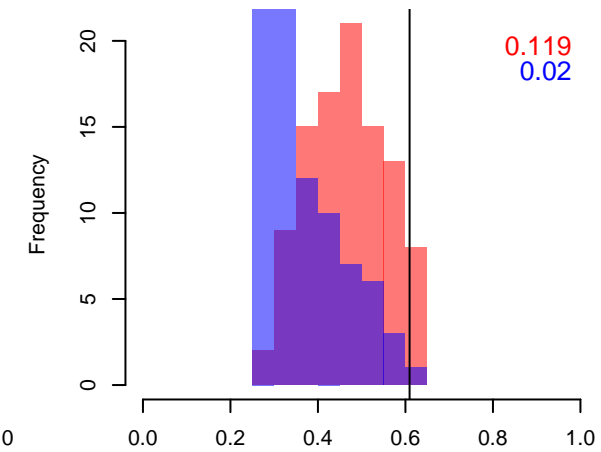
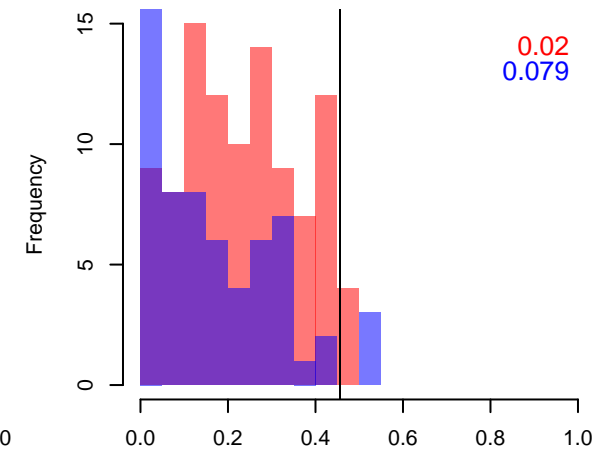
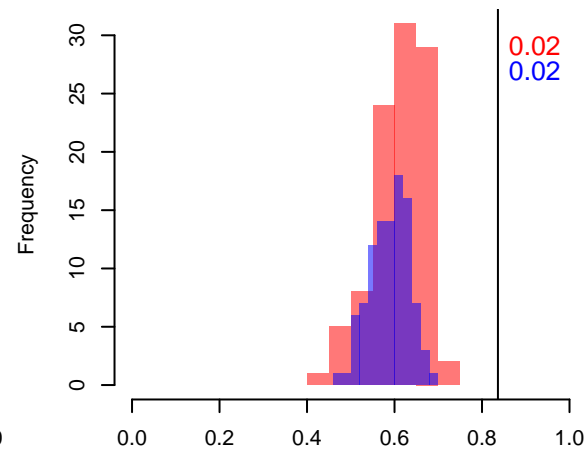
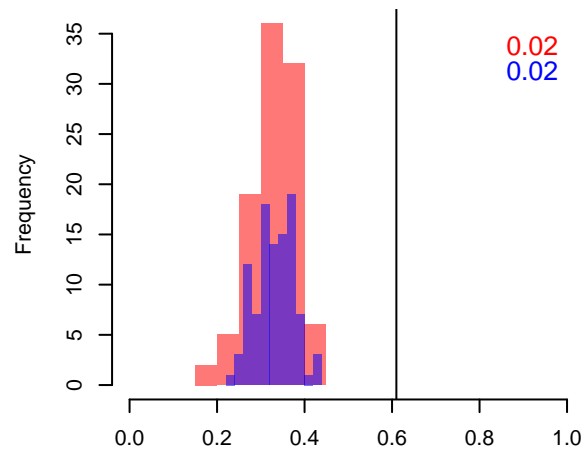
D

I

O. vulgare ssp. *hirtum*
—
O. × intercedens



O. vulgare ssp. *hirtum*
—
O. onites



O. × intercedens
—
O. onites

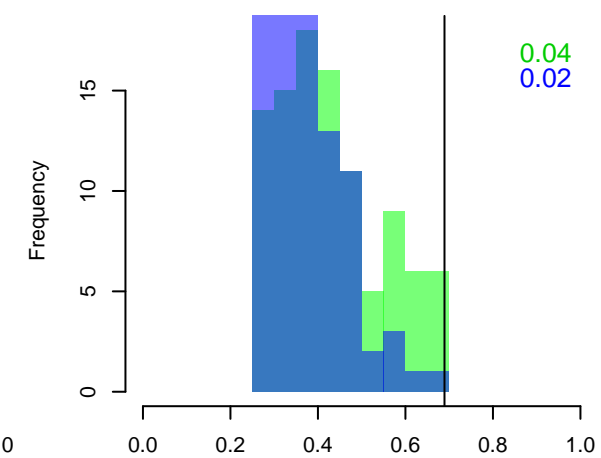
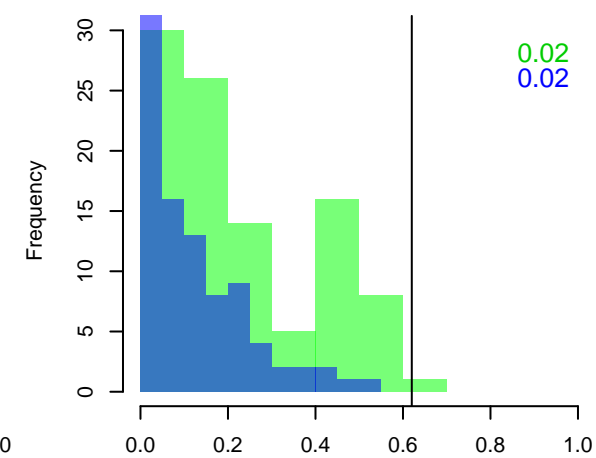
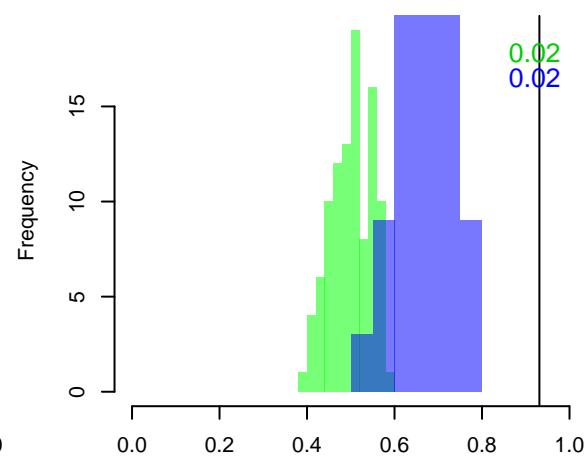
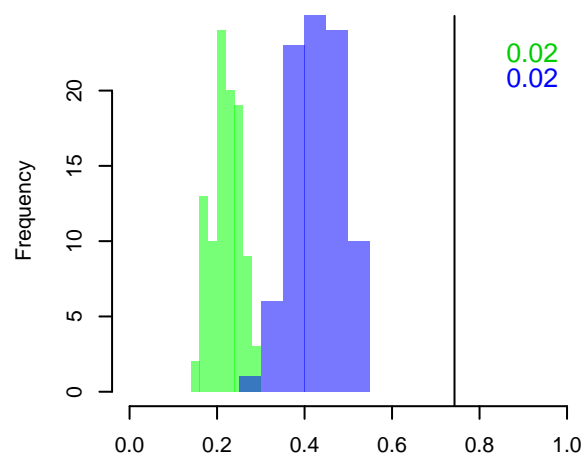


Fig. S7 Histograms of the simulated and observed D and I metrics for the G- and E-space similarity tests of M dataset. The different colors represent the focal taxon of each test, which was tested against the background of the second taxon: red, green and blue correspond to *O. vulgare* ssp. *hirtum*, *O. × intercedens* and *O. onites*, respectively. Vertical lines indicate the observed value of the measured metric. Numbers in the top right corner of each plot are the p-values of the respective tests.