

Figure S1: Haplotype networks displaying evolutionary relationships among all haplotypes and geographic region in which each individual bearing the haplotype was sampled.

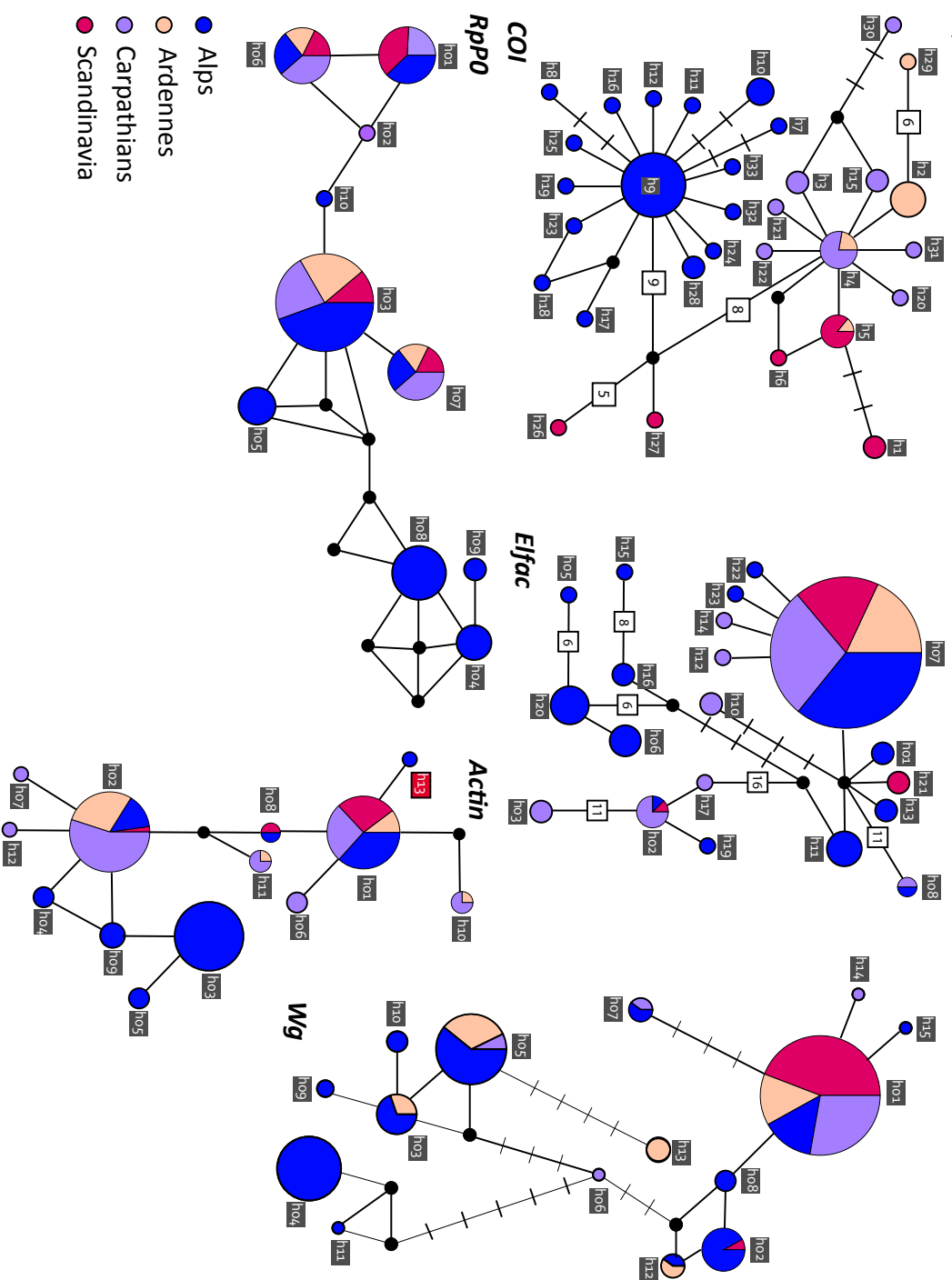


Figure S2, Supporting information Potential geographic distribution maps overlay for *G. intermedia* through different periods of time (current, LGM and LIG) given for both thresholds (Min and Max) and both variable selections (AIC, 6Var) obtained with the program MAXENT and designed in DIVAGIS. See text in Materials and Methods S1, Supporting information for details.

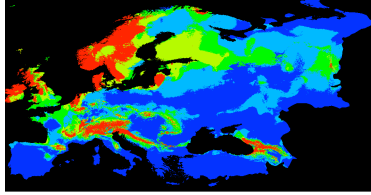
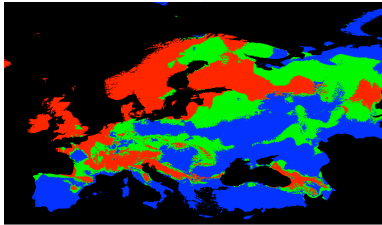
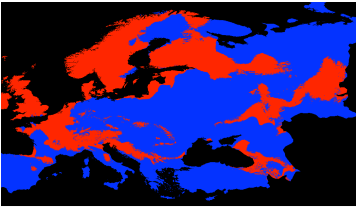
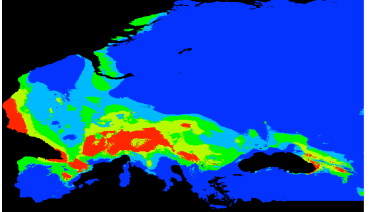
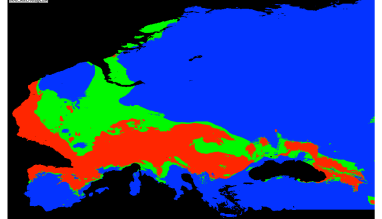
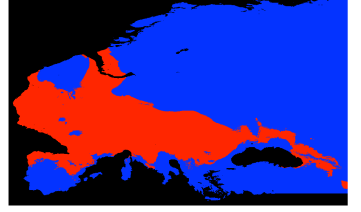
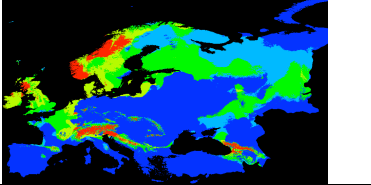
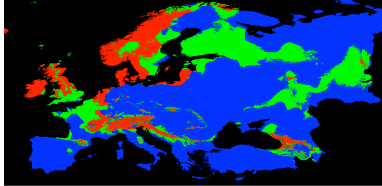
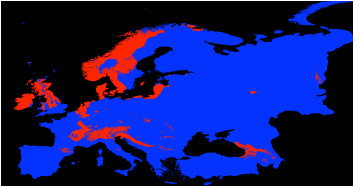
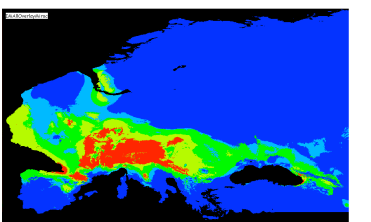
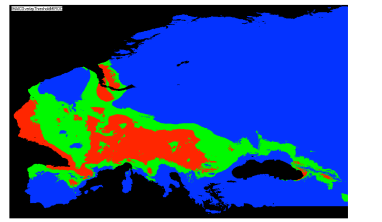
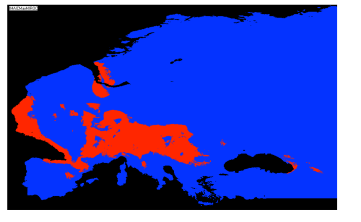
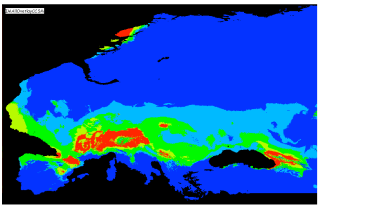
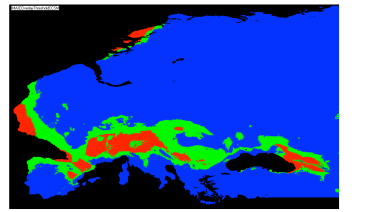
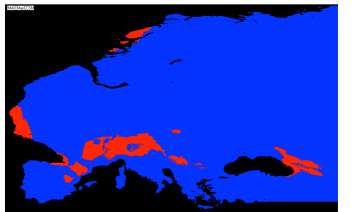
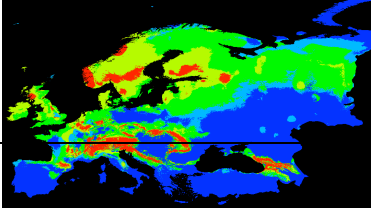
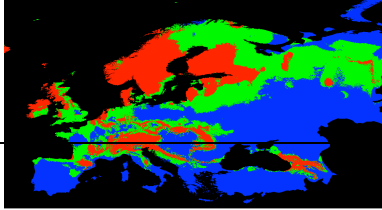
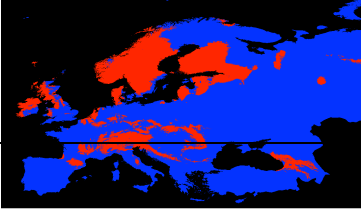
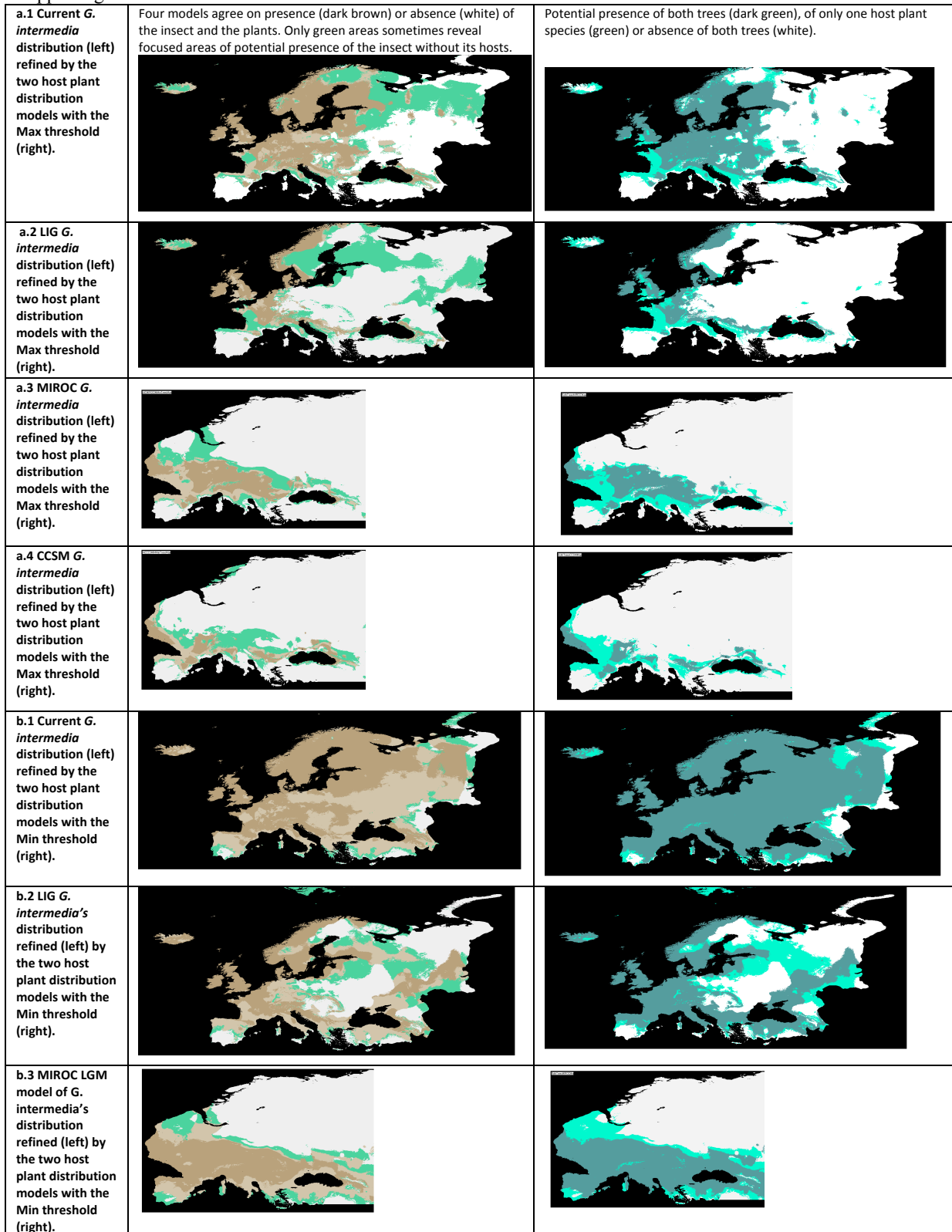
<p>A1: Current-LIG Overlay for AIC only model and either both thresholds (left) or Min only (middle). PIG potential distribution for the AIC and Min model</p>	<p>Four models agree on presence (red) or absence (Dark Blue). Absence of consensus among models (from light blue, green and yellow to increase consensus on potential presence)</p> 	<p>Red: potential presence during both PIG and present, Green: during present days only, blue: absence during both periods</p> 	<p>Red: potential presence during LIG, and blue: absence</p> 
<p>A2: Consensus for LGM period (two LGM simulations and two thresholds; left), AIC and MIN model for both LGM simulations (middle) or for the MIROC alone (right)</p>			
<p>B1: LIG period with both thresholds and either both (left) or only AIC (middle) variable selection(s), and PIG model with AIC and Max only (right).</p>	<p>Four models agree on presence (red) or absence (Dark Blue). Absence of consensus among models (from light blue, green and yellow to increase consensus on potential presence)</p> 	<p>Agreement between both Min and Max models on potential presence (red) or absence (Blue), and only one model predicts presence (green)</p> 	<p>Predicted potential presence (red) or absence (blue)</p> 
<p>B2: MIROC model for LGM period with both thresholds and either both (left) or only AIC (middle) variable selection(s), and model with AIC and Max only (right).</p>			
<p>B3: CCSM model for LGM period with both thresholds and either both (left) or only AIC (middle) variable selection(s), and model with AIC and Max only (right).</p>			
<p>B4: Current period model with both thresholds and either both (left) or only AIC (middle) variable selection(s), and current model with AIC and Max only (right).</p>			
			<p>1</p>

Figure S3, Supporting information Potential geographic distribution maps overlay for *Gonioctena intermedia*, and its host plants, *Prunus padus* and *Sorbus aucuparia*, through different periods (current, LGM and LIG) given for the chosen variable selection, AIC, and the Min threshold for insects and the Max threshold for plants obtained with the program MAXENT and designed in DIVAGIS. See text in Materials and Methods S1, Supporting information for details.



b.4 CCSM LGM model of *G. intermedia*'s distribution refined (left) by the two host plant distribution models with the Min threshold (right).

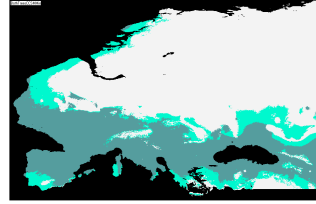
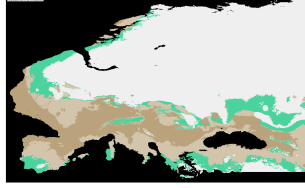


Figure S4, Supporting information Spatially explicit scenarios (P1-P12) tested for *Gonioctena intermedia* with coalescence simulations in PhyloGeoSim. Red arrows and circles highlight differences among scenarios. Maximum effective sizes reflect potential presences from MaxEnt models.

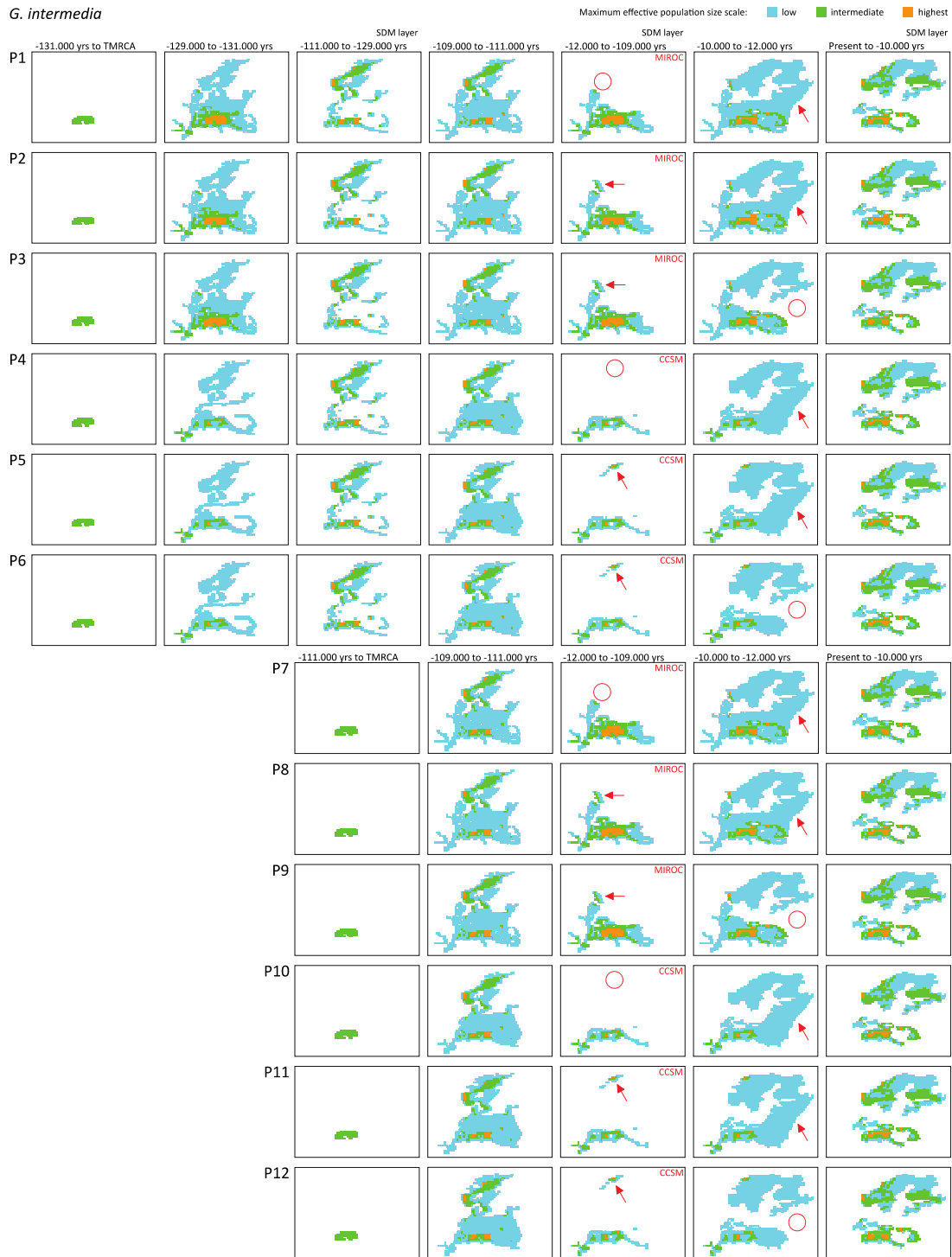
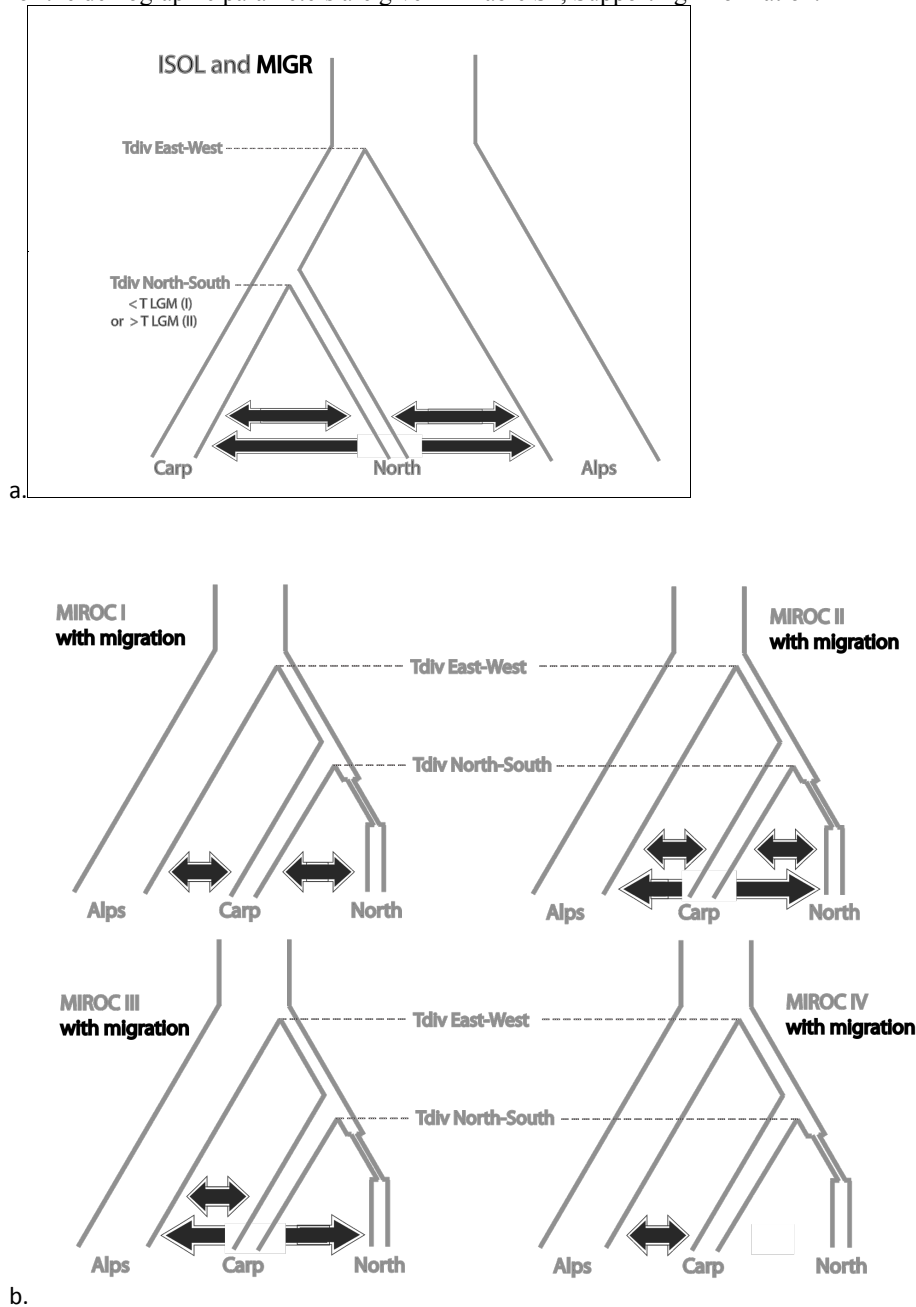
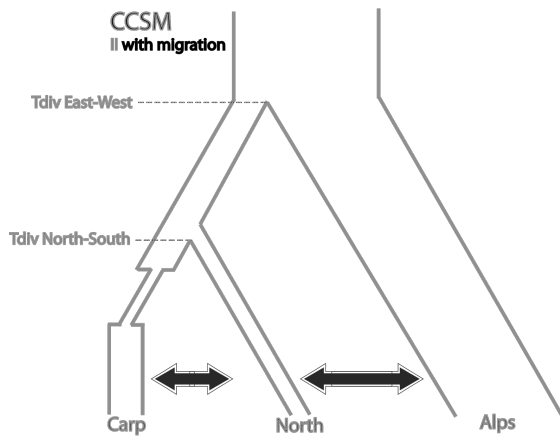


Figure S5, Supporting information Demographic scenarios tested for *Gonioctena intermedia* with the Approximate Bayesian Computation approach in ABCtoolbox along CCROC ones, including ISOL and MIGR (a), MIROC I to IV (b) and CCSM (c). The first phase of analyses (MCMC approach) allowed us to identify the most likely topology as (Alps(Carp-North)) for the species tree on divergence events between the main inhabited regions, the Alps (Alps), the Carpathians (Carp) and northern Europe (North). Scenarios always show an older divergence between the populations from the Alps and from the rest of the distribution (Tdiv East-West) but differ whether the divergence between populations from northern Europe and the Carpathians (Tdiv North-South) is older or not than the Last Glacial Maximum (T LGM), whether they include migration or not, and whether they show demographic events such as population size reduction or expansion or not. Ranges of values for the demographic parameters are given in Table S4, Supporting information.





C.

