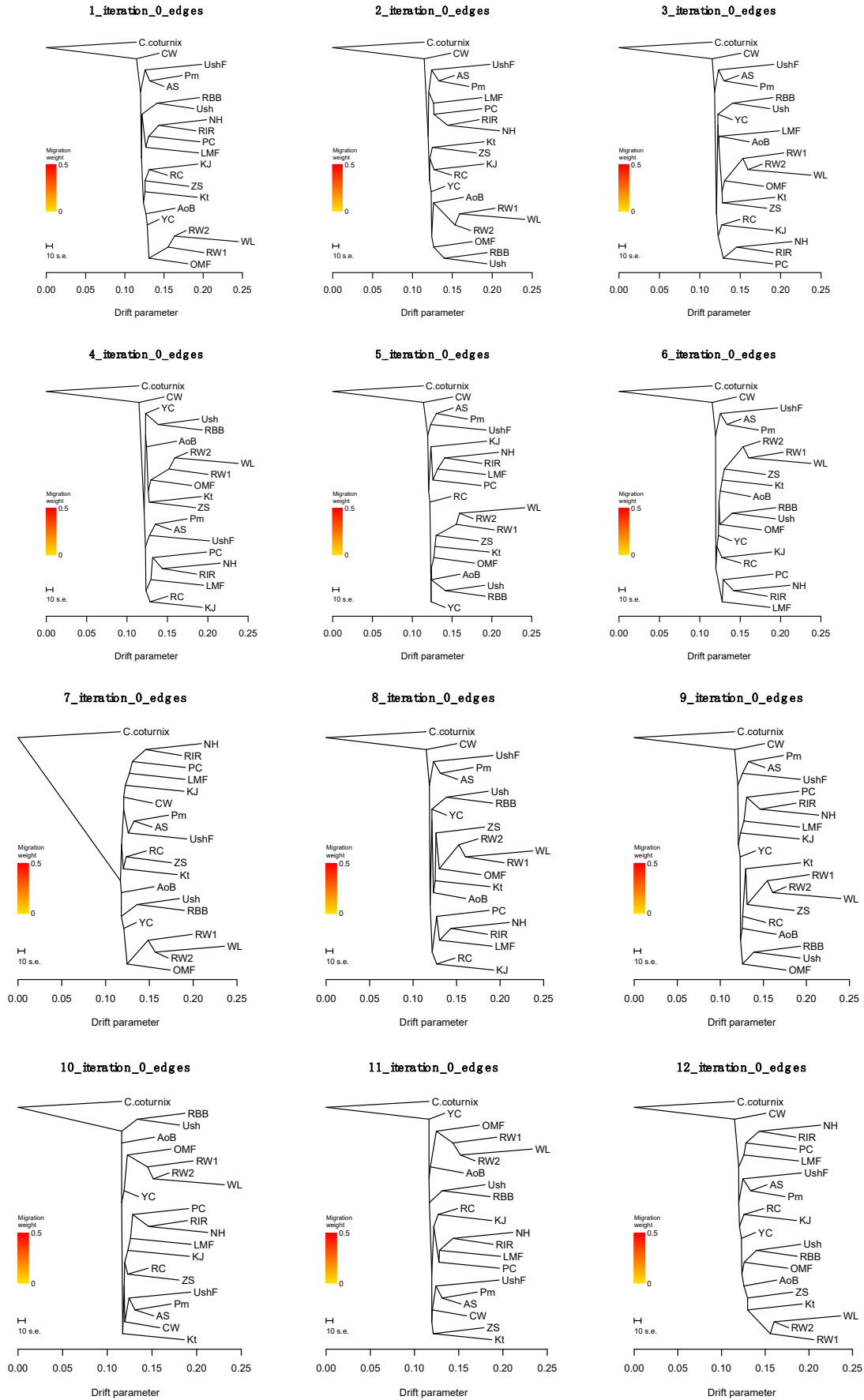
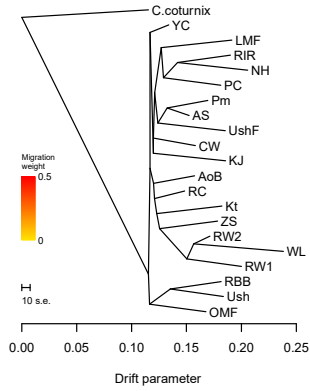


Supplementary Figure S10A. Assessment of the degree of divergence and the level of gene flow between the studied breeds. Rooted maximum likelihood trees with one migration event. Common quail (*C. coturnix*) was used as an outgroup; cut length 10 s.e. corresponds to ten times the average standard error (s.e.) estimated from the sample covariance matrix. Breed codes: AoB, Australorp Black; AS, Adler Silver; CW, Cornish White; KJ, Kuchino Jubilee; Kt, Kotlyarevsky; LMF, Leningrad Mille Fleur; NH, New Hampshire; OMF, Orloff Mille Fleur; PC, Poltava Clay; Pm, Pervomai; RBB, Russian Black Bearded; RC, Russian Crested; RIR, Rhode Island Red; RW1, Russian White (ARPTI); RW2, Russian White (RRIFAGB); Ush, Ushanka; UshF, Ushanka Foot-feathered; WL, White Leghorn; YC, Yurlov Crower; ZS, Zagorsk Salmon.

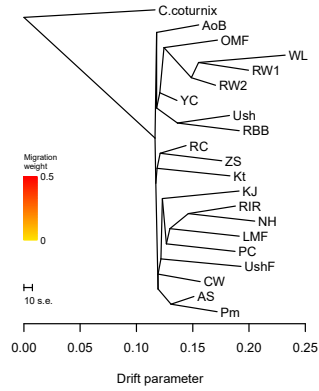
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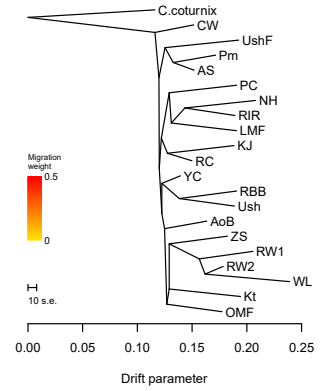
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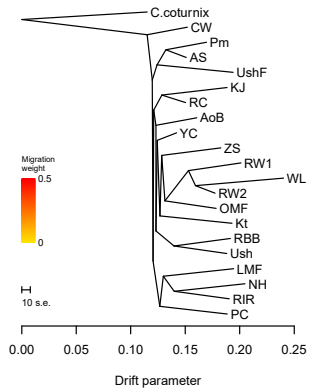
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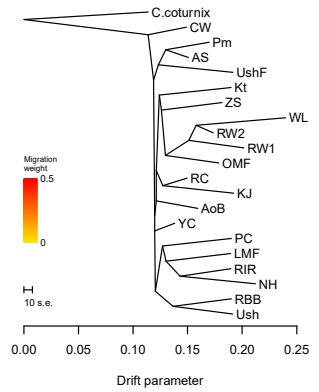
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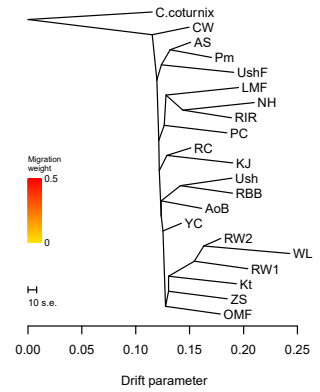
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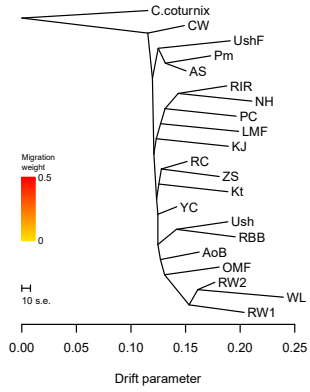
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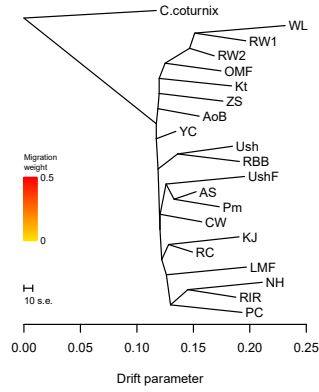
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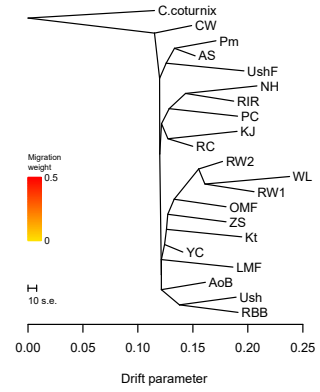
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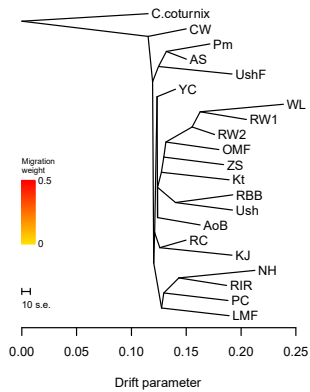
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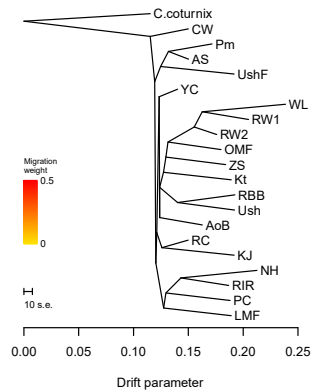
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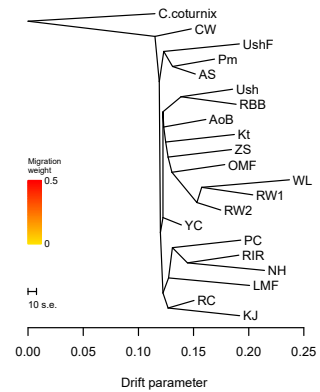
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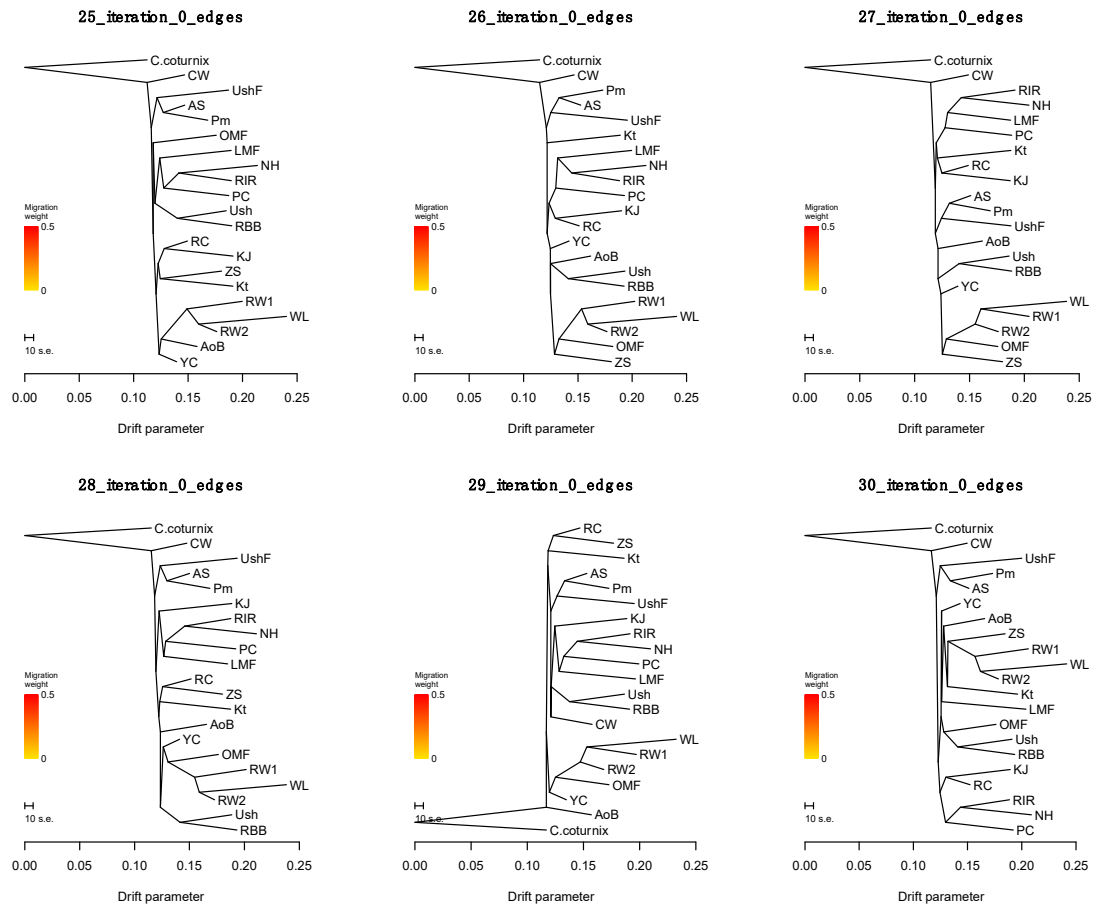


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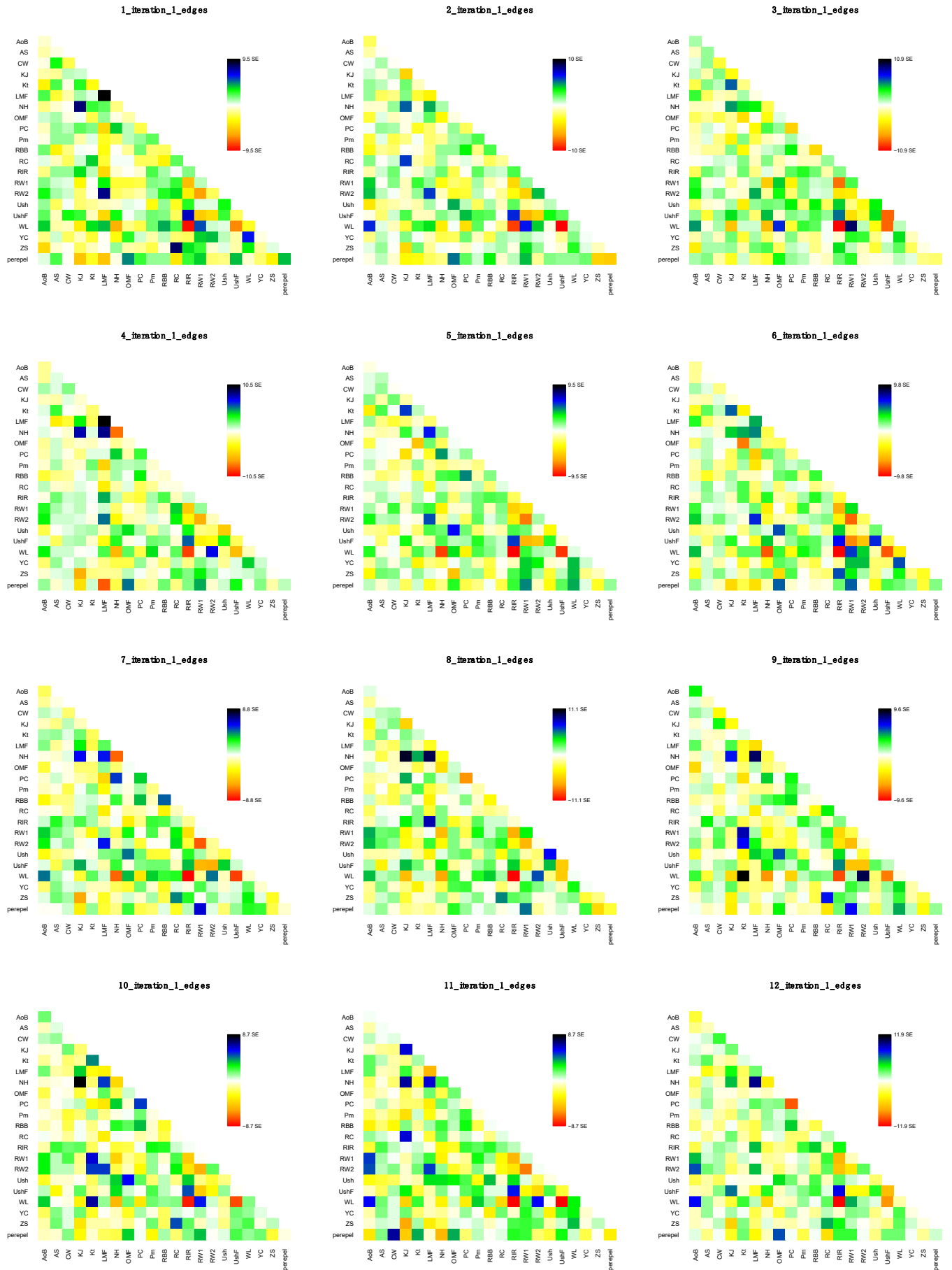
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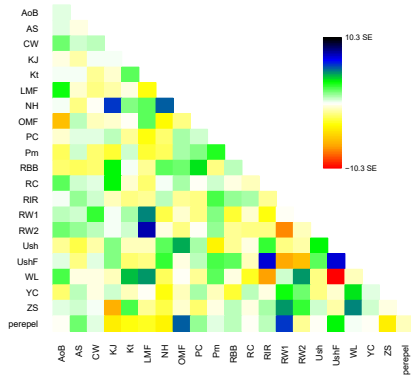


Supplementary Figure S10B. Same as Supplementary Figure S10A, except for rooted maximum likelihood trees with no migration event. Breed codes: AoB, Australorp Black; AS, Adler Silver; CW, Cornish White; KJ, Kuchino Jubilee; Kt, Kotlyarevsky; LMF, Leningrad Mille Fleur; NH, New Hampshire; OMF, Orloff Mille Fleur; PC, Poltava Clay; Pm, Pervomai; RBB, Russian Black Bearded; RC, Russian Crested; RIR, Rhode Island Red; RW1, Russian White (ARPRTI); RW2, Russian White (RRIFAGB); Ush, Ushanka; UshF, Ushanka Foot-feathered; WL, White Leghorn; YC, Yurlov Crower; ZS, Zagorsk Salmon. Outgroup: *C. coturnix*, quail.

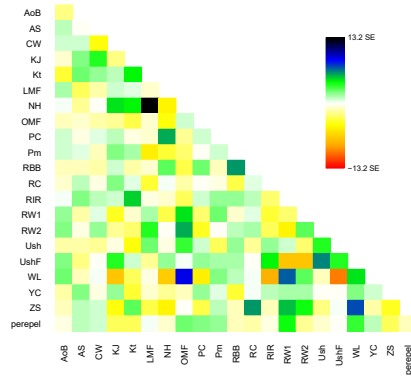
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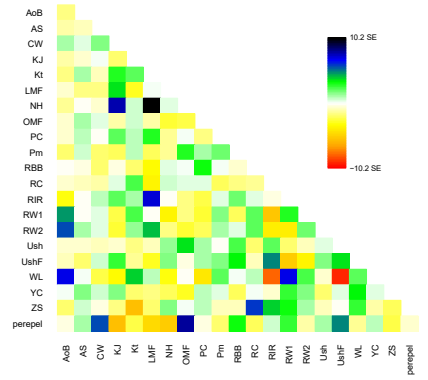
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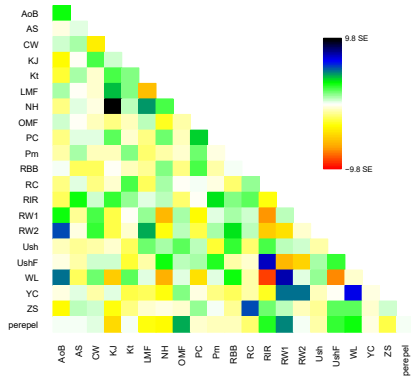
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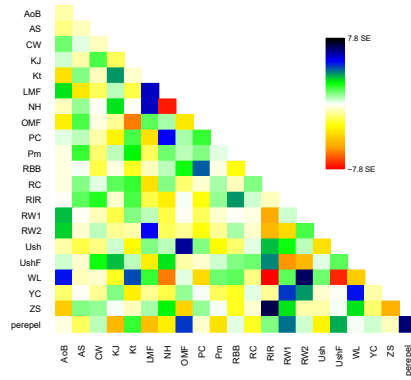
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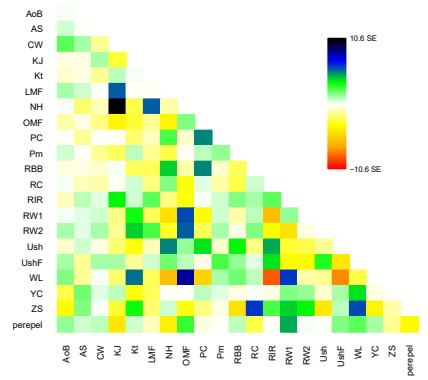
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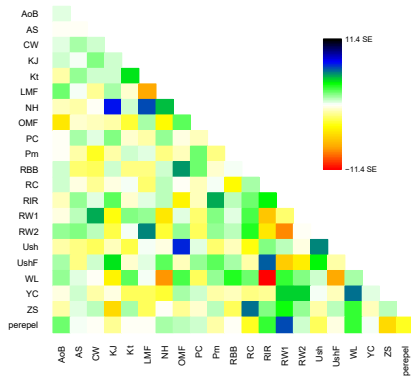
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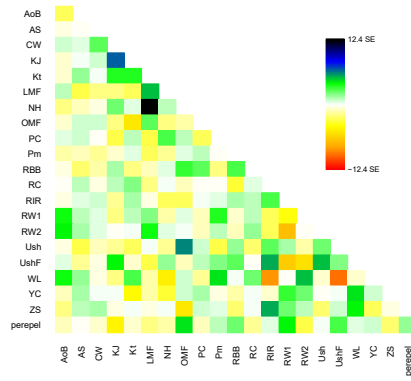
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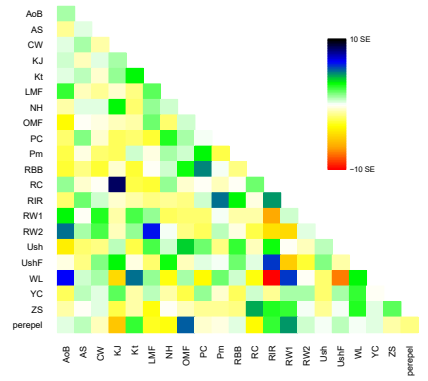
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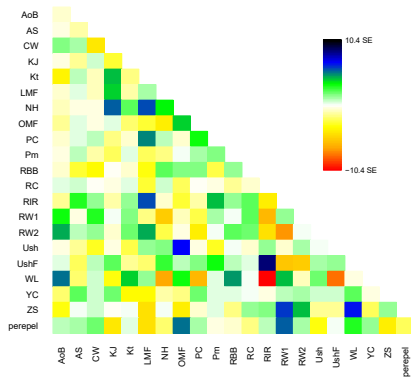
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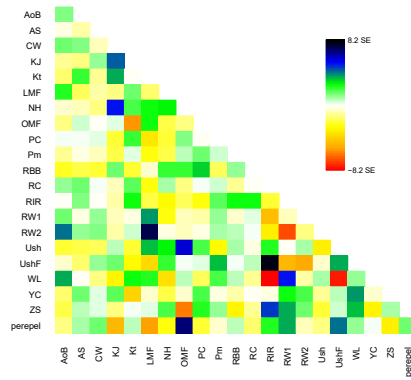
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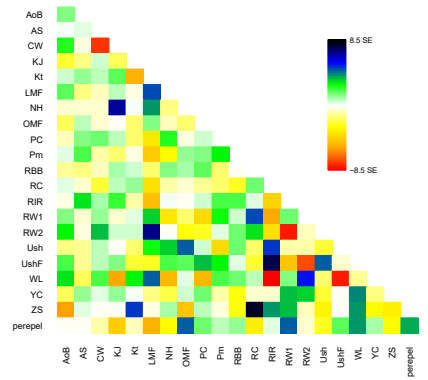
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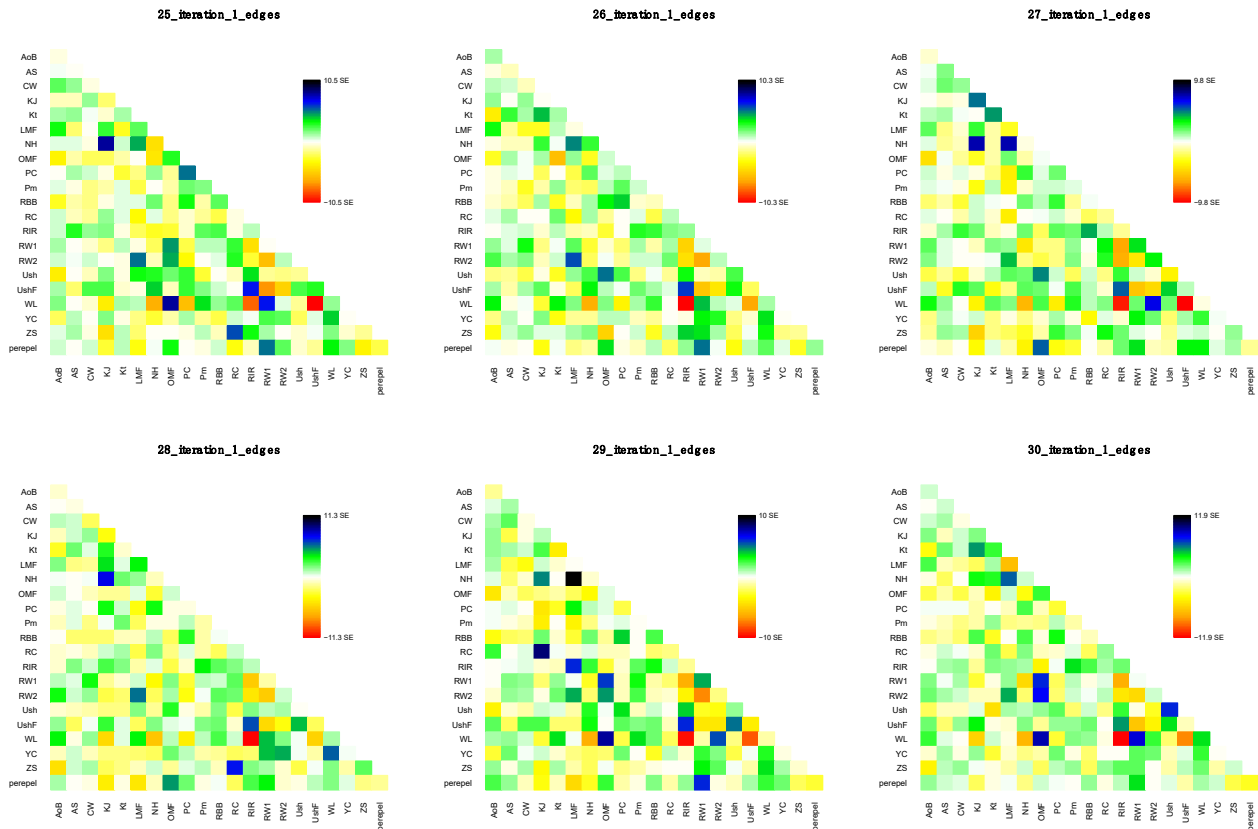


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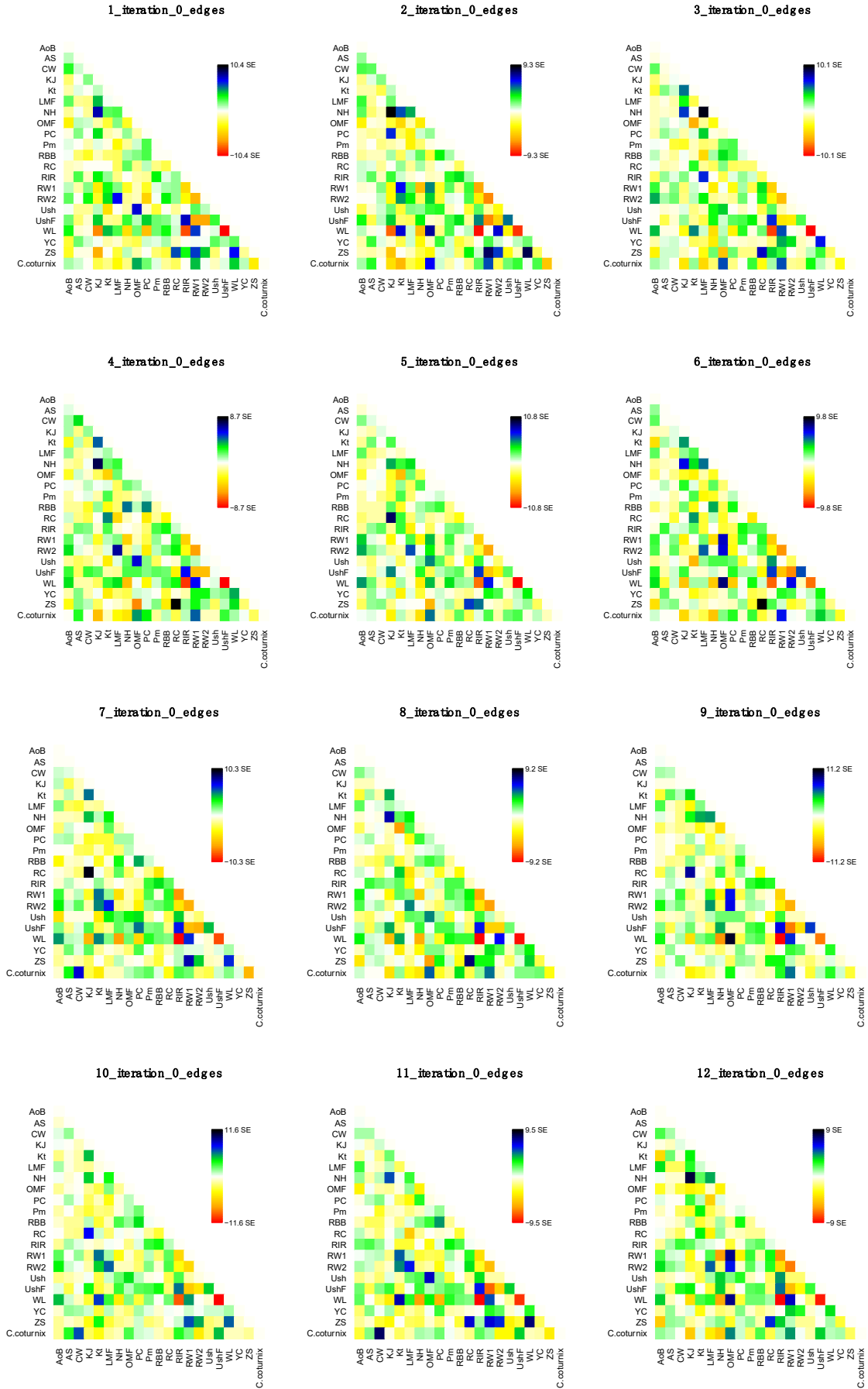
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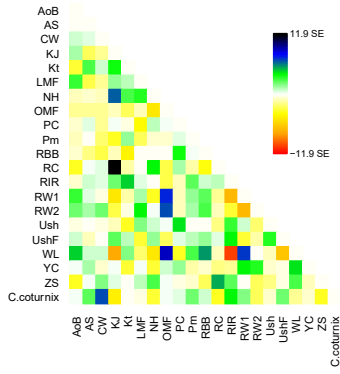


Supplementary Figure S10C. Assessment of the degree of divergence and the level of gene flow between the studied breeds. Residual matrix derived from the TreeMix analysis for a single migration event, expressed as the number of standard error deviations for the observations in the respective breeds. Breed codes: AoB, Australorp Black; AS, Adler Silver; CW, Cornish White; KJ, Kuchino Jubilee; Kt, Kotlyarevsky; LMF, Leningrad Mille Fleur; NH, New Hampshire; OMF, Orloff Mille Fleur; PC, Poltava Clay; Pm, Pervomai; RBB, Russian Black Bearded; RC, Russian Crested; RIR, Rhode Island Red; RW1, Russian White (ARPTI); RW2, Russian White (RRIFAGB); Ush, Ushanka; UshF, Ushanka Foot-feathered; WL, White Leghorn; YC, Yurlov Crower; ZS, Zagorsk Salmon. Outgroup: perepel, quail (*C. coturnix*).

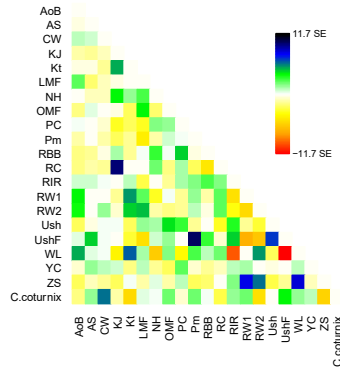
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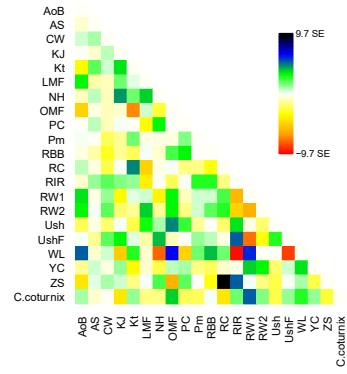
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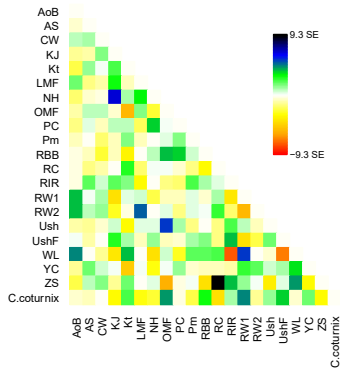
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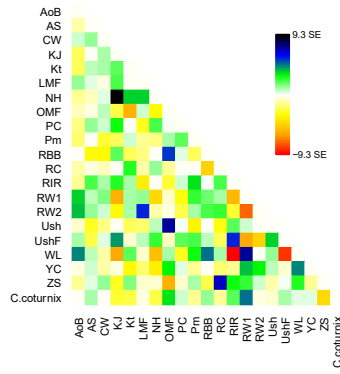
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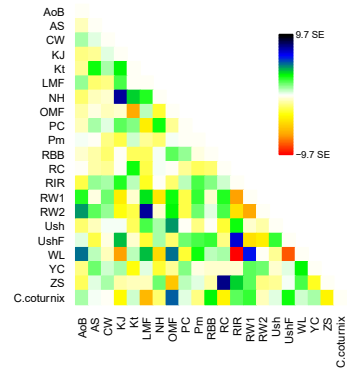
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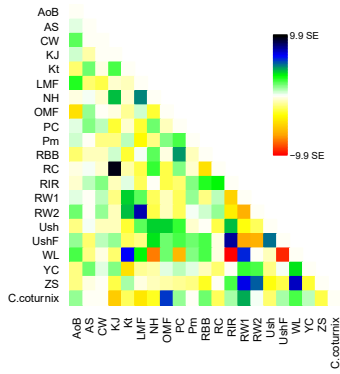
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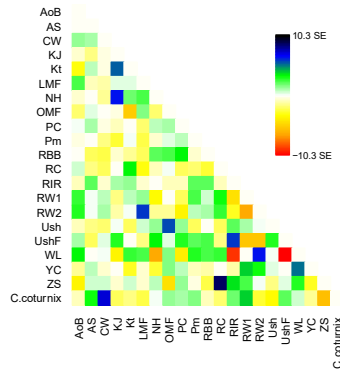
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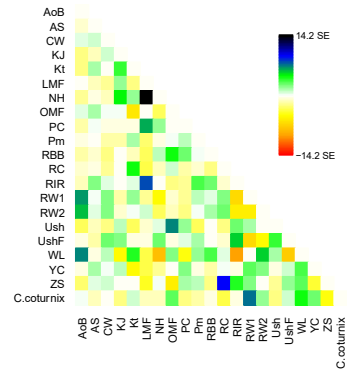
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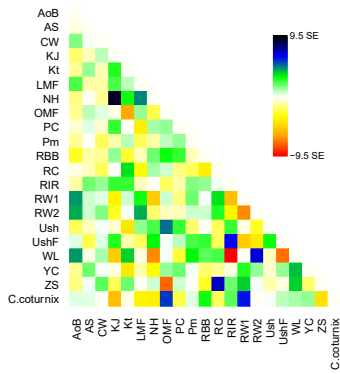
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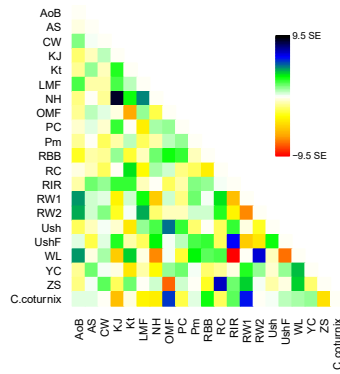
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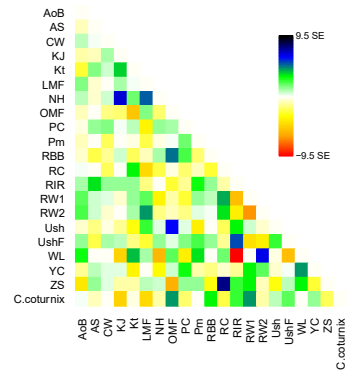
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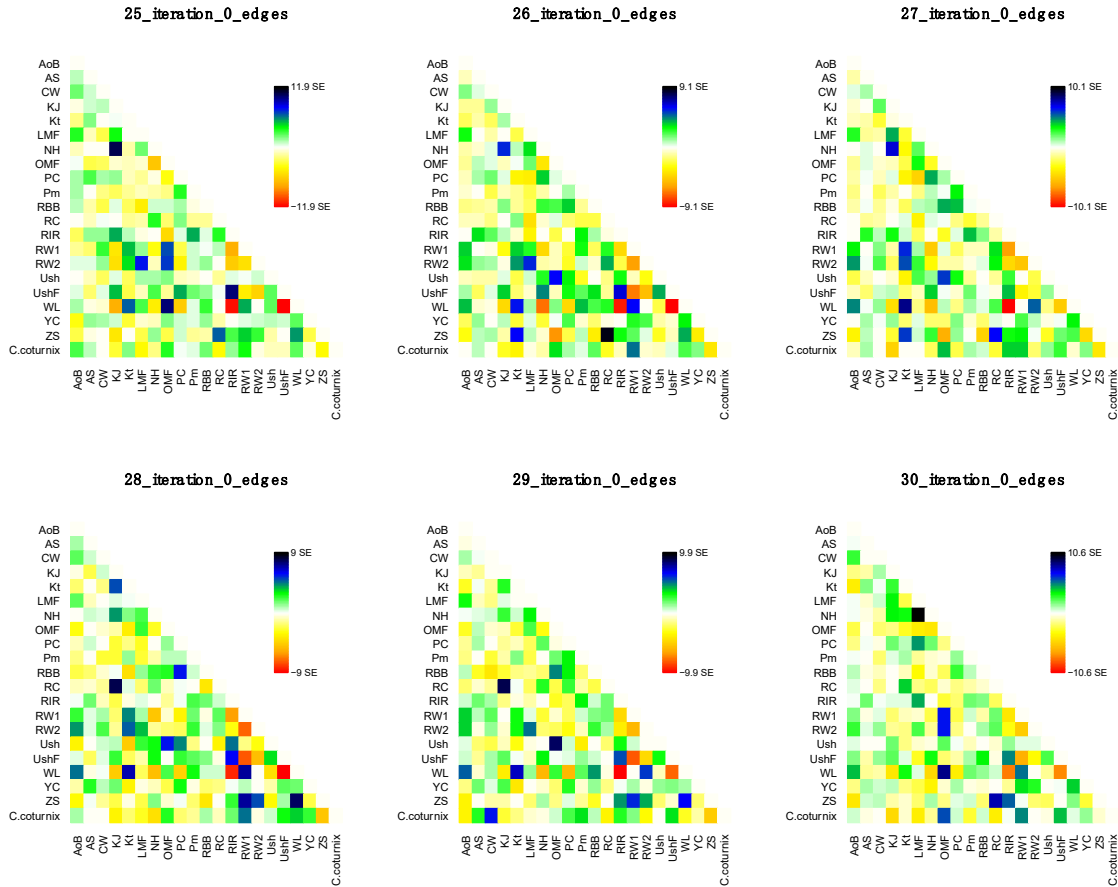


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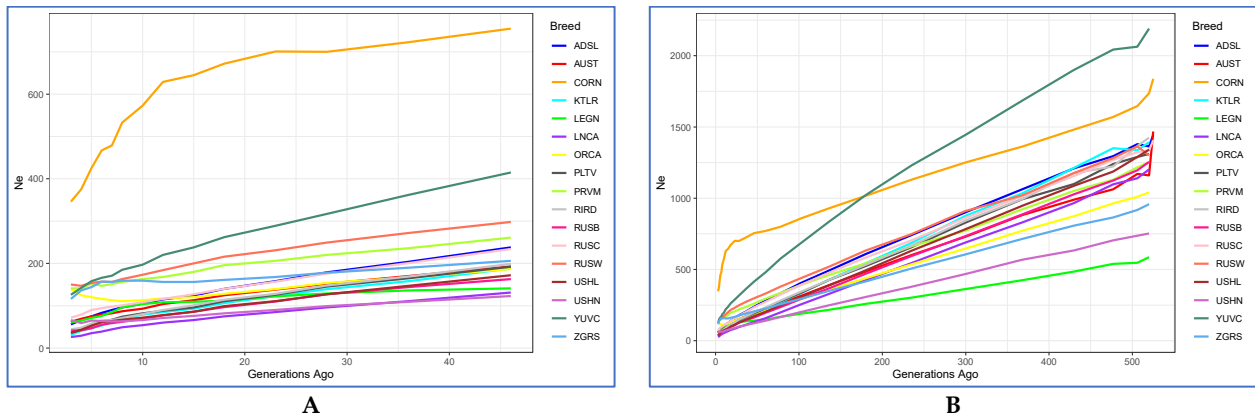


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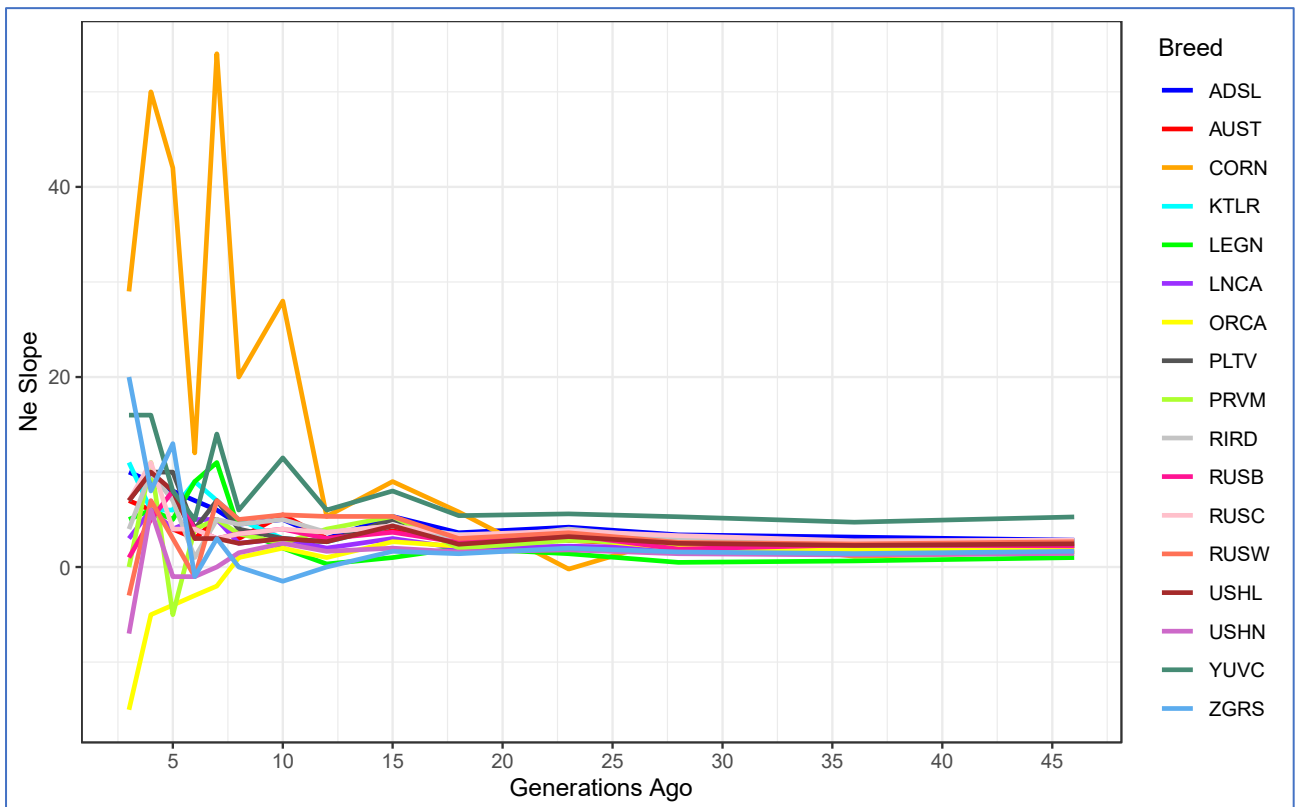




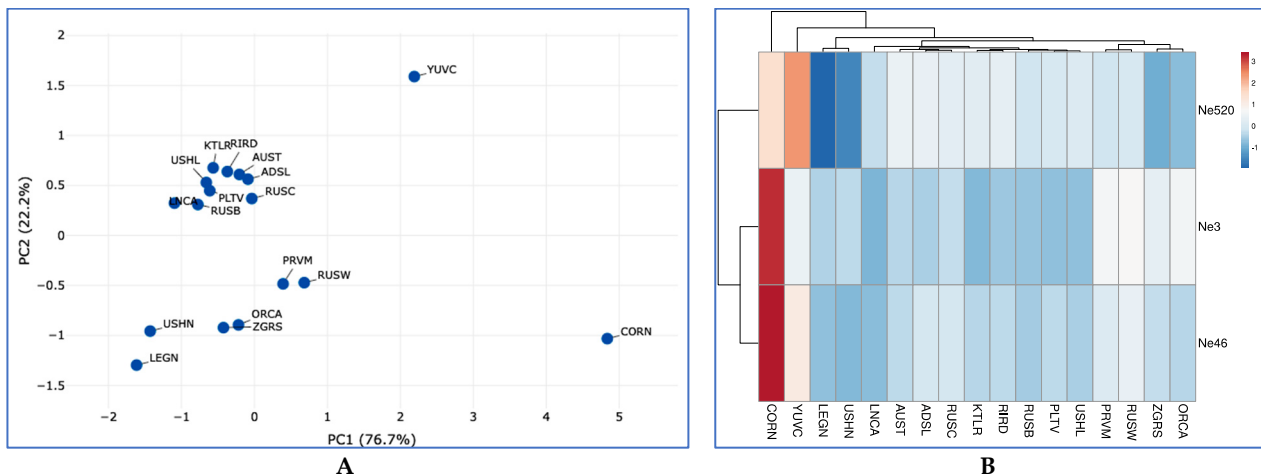
Supplementary Figure S10D. Same as Supplementary Figure S10C, except for no migration events. Breed codes: AoB, Australorp Black; AS, Adler Silver; CW, Cornish White; KJ, Kuchino Jubilee; Kt, Kotlyarevsky; LMF, Leningrad Mille Fleur; NH, New Hampshire; OMF, Orloff Mille Fleur; PC, Poltava Clay; Pm, Pervomai; RBB, Russian Black Bearded; RC, Russian Crested; RIR, Rhode Island Red; RW1, Russian White (ARPTI); RW2, Russian White (RRIFAGB); Ush, Ushanka; UshF, Ushanka Foot-feathered; WL, White Leghorn; YC, Yurlov Crower; ZS, Zagorsk Salmon. Outgroup: *C. coturnix*, quail.



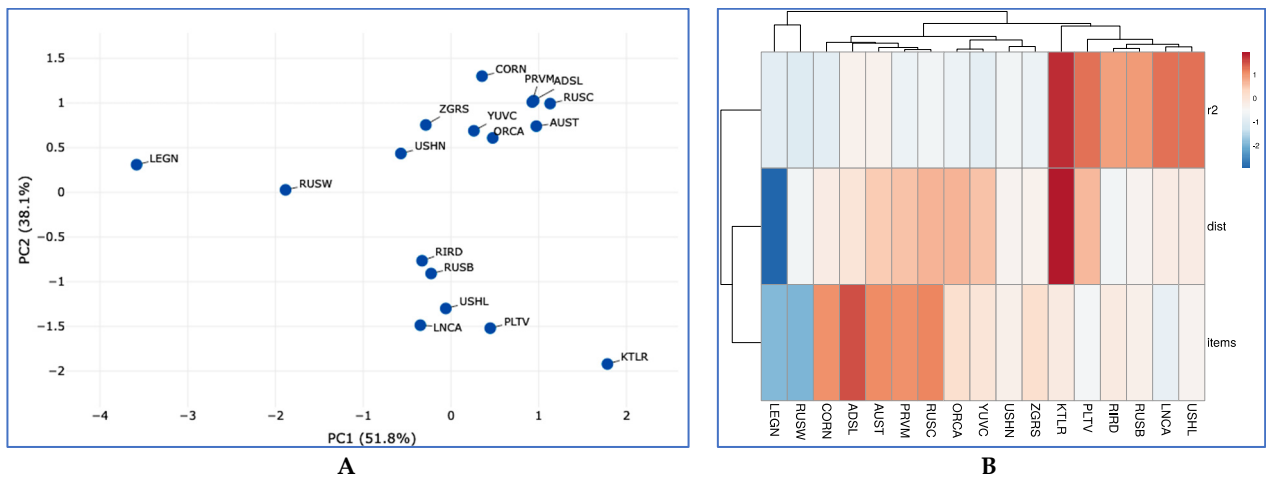
Supplementary Figure S11. Dynamics of changes in the effective population size (N_e). This was plotted using the *SNeP* program [78] for the 17 studied breeds (except KJ and NH) in the interval of 3–46 (A) and 3–525 (B) generations ago. Breed abbreviations: ADSL, Adler Silver; AUST, Australorp Black; CORN, Cornish White; KTLR, Kotlyarevsky; LEGN, White Leghorn; LNCA, Leningrad Mille Fleur; ORCA, Orloff Mille Fleur; PLTV, Poltava Clay; PRVM, Pervomai; RIRD, Rhode Island Red; RUSB, Russian Black Bearded; RUSC, Russian Crested; RUSW, Russian White; USHL, Ushanka Foot-feathered; USHN, Ushanka; YUVC, Yurlov Crower; ZGRS, Zagorsk Salmon.



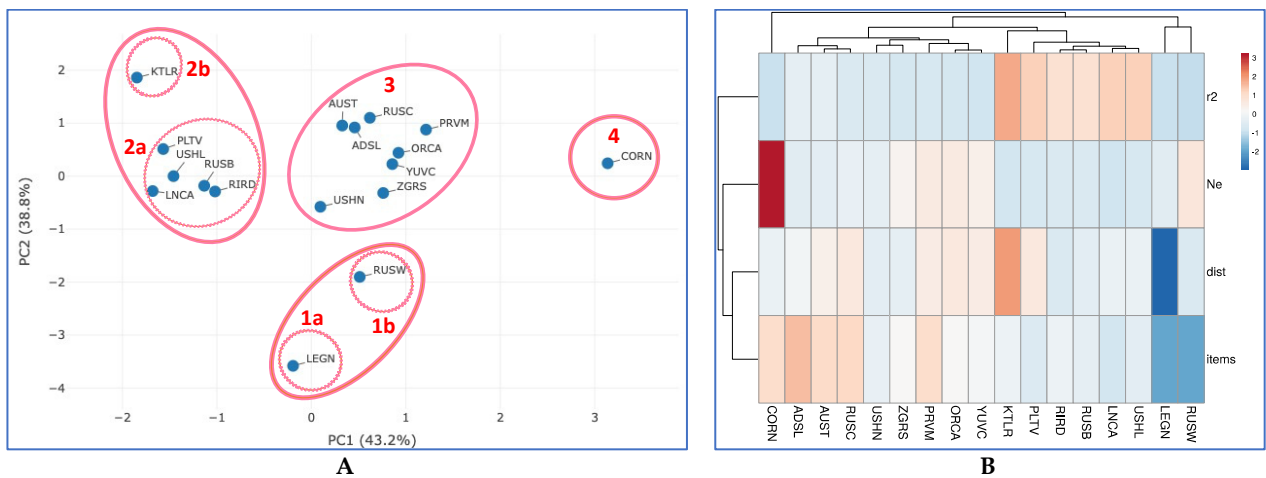
Supplementary Figure S12. Analysis of the N_e slopes [83]. These exhibit N_e changes in the 17 studied breeds (except KJ and NH) over a period of 3–46 generations ago. The constant rate of change is shown as a horizontal straight line at point 0 on the y -axis, while deviations above and below 0 represent, respectively, the relative increase and decrease in the changing N_e slope as compared to the previous generation. Breed abbreviations: ADSL, Adler Silver; AUST, Australorp Black; CORN, Cornish White; KTLR, Kotlyarevsky; LEGN, White Leghorn; LNCA, Leningrad Mille Fleur; ORCA, Orloff Mille Fleur; PLTV, Poltava Clay; PRVM, Pervomai; RIRD, Rhode Island Red; RUSB, Russian Black Bearded; RUSC, Russian Crested; RUSW, Russian White; USHL, Ushanka Foot-feathered; USHN, Ushanka; YUVC, Yurlov Crower; ZGRS, Zagorsk Salmon.



Supplementary Figure S13. Distribution of the 17 studied breeds (except KJ and NH) when combining the N_e data for 3, 46, and 520–525 generations ago. **(A)** PCA plot built using the Phantasus program [56]. Unit variance scaling is applied to the rows of the original matrix; multilevel singular value decomposition (SVD) with imputation was used to calculate the principal components (PCs). The axes x and y show PC1 and PC2 that account for 76.7 and 22.2% of the total variance, respectively. **(B)** Heat map and trees obtained using the ClustVis program [64] and Euclidean distances for both rows and columns of the matrix (with the *average* option selected for the clustering method). Breed abbreviations: ADSL, Adler Silver; AUST, Australorp Black; CORN, Cornish White; KTLR, Kotlyarevsky; LEGN, White Leghorn; LNCA, Leningrad Mille Fleur; ORCA, Orloff Mille Fleur; PLTV, Poltava Clay; PRVM, Pervomai; RIRD, Rhode Island Red; RUSB, Russian Black Bearded; RUSC, Russian Crested; RUSW, Russian White; USHL, Ushanka Foot-feathered; USHN, Ushanka; YUVC, Yurlov Crower; ZGRS, Zagorsk Salmon.



Supplementary Figure S14. Distribution of the 17 studied breeds (except KJ and NH) when combining the r^2 , $dist$ and $items$ data for 3 generations ago. (A) PCA plot built using the Phantasus program [56]. Unit variance scaling is applied to the rows of the original matrix; multilevel singular value decomposition (SVD) with imputation was used to calculate the principal components (PCs). The axes x and y show PC1 and PC2 that account for 51.8 and 38.1% of the total variance, respectively. (B) Heat map and trees obtained using the ClustVis program [64] and Euclidean distances for both rows and columns of the matrix (with the *average* option selected for the clustering method). Breed abbreviations: ADSL, Adler Silver; AUST, Australorp Black; CORN, Cornish White; KTLR, Kotlyarevsky; LEGN, White Leghorn; LNCA, Leningrad Mille Fleur; ORCA, Orloff Mille Fleur; PLTV, Poltava Clay; PRVM, Pervomai; RIRD, Rhode Island Red; RUSB, Russian Black Bearded; RUSC, Russian Crested; RUSW, Russian White; USHL, Ushanka Foot-feathered; USHN, Ushanka; YUVC, Yurlov Crower; ZGRS, Zagorsk Salmon.



Supplementary Figure S15. Distribution of the 17 studied breeds (except KJ and NH) when combining the Ne , r^2 , $dist$ and $items$ data for 3 generations ago. (A) PCA plot built using the Phantasus program [56]. Unit variance scaling is applied to the rows of the original matrix; multilevel singular value decomposition (SVD) with imputation was used to calculate the principal components (PCs). The axes x and y show PC1 and PC2 that account for 43.2 and 38.8% of the total variance, respectively. $N = 17$ data points (breeds). (B) Heat map and trees obtained using the ClustVis program [64] and Euclidean distances for both rows and columns of the matrix (with the *average* option selected for the clustering method). Breed abbreviations: ADSL, Adler Silver; AUST, Australorp Black; CORN, Cornish White; KTLR, Kotlyarevsky; LEGN, White Leghorn; LNCA, Leningrad Mille Fleur; ORCA, Orloff Mille Fleur; PLTV, Poltava Clay; PRVM, Pervomai; RIRD, Rhode Island Red; RUSB, Russian Black Bearded; RUSC, Russian Crested; RUSW, Russian White; USHL, Ushanka Foot-feathered; USHN, Ushanka; YUVC, Yurlov Crower; ZGRS, Zagorsk Salmon.