Corrigendum: Heterospecific Nest Site Copying Behavior in a Wild Bird: Assessing the Influence of Genetics and Past Experience on a Joint Breeding Phenotype

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A corrigendum on

Heterospecific Nest Site Copying Behavior in a Wild Bird: Assessing the Influence of Genetics and Past Experience on a Joint Breeding Phenotype
by Morinay, J., Forsman, J. T., Kivelä, S. M., Gustafsson, L., and Doligez, B. (2018). Front. Ecol. Evol. 5:167. doi: 10.3389/fevo.2017.00167

In the original article, there was an error. In the pedigree of the population, some offspring from 2013 and 2014 were considered as originating from their nest of rearing, not the nest where they hatched before being cross-fostered. We corrected these miss-assignments in the pedigree and re-fitted the models.

A correction has been made to the Results section, first paragraph:
Nevertheless, the day of choice (95% CI = [−0.517; 0.576]) did not explain the probability to copy (Appendix S5). Similarly, the proportion of boxes occupied by tits on the day of choice was greater in 2012, but this variable did not affect the probability to copy (95% CI = [−3.687; 3.419], Appendix S5). As could be expected, when a symbol was overrepresented on the empty boxes in a given patch, the probability to choose a box with this symbol was higher than random (95% CI = [3.725; 20.103], Table 3).

A correction has been made to the Results section, sub-section "Age, Experience, and Environmental Effects on the Probability to Copy":
Based on the animal model output, pairs including a yearling male were more likely to copy compared to pairs including an older immigrant male (56.0% of copying over the years, against 47.3%

*for pairs with an old immigrant male; 95% CI = [0.145; 1.746], Tables 2, **3**, **Figure 2**). Pair experience with symbols, defined as whether both or one partner was naive or had experience with symbol choice had no effect on the probability to copy, even though we got a slight trend for mixed pair to reject tit preference (95% CI = [−2.064;0.174], Appendix S5).*

A correction has been made to the Results section, sub-section "Quantitative Genetics of the Probability to Copy":

There was no cross-sex additive genetic covariance in the probability to copy (95% CI = [−0.024; 0.029] in the full model).

A correction has been made to the Appendix S3, S4, and S5, and the corrected file is available using the link provided hereafter.

The corrected **Tables 3**, **4**, and **Figures 2**, **3** appear below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way.

The original article has been updated.

AUTHOR CONTRIBUTIONS

JM re-conducted the analyses for the correction. JM drafted the correction. JM, JF, SK, LG, and BD revised and approved the correction.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fevo.2018.00080/full#supplementary-material

TABLE 3 | Posterior modes and credible intervals of the final animal model fitting the probability to copy the tit preference.

|	Posterior mode	CI (95%)	Effective sample size
FIXED EFFECTS			
Intercept	−0.252	[−**1**.066 ; 0.497]	3,934
Status ♂			
Older philopatric	0.159	[−0.576 ; 0.722]	3,934
Yearling	0.837	[0.145 ; 1.746]	3,934
Dev.symbol	11.194	[3.725 ; 20.103]	3,934
RANDOM EFFECTS			
$V_{A♀}$	0.007	[0 ; 1.024]	3,934
$V_{A♂}$	0.008	[0 ; 1.262]	3,934
$V_{D♀}$	0.009	[0 ; 1.240]	3,934
$V_{D♂}$	0.009	[0 ; 1.226]	3,934
$V_{M♀}$	0.009	[0 ; 2.157]	3,934
$V_{M♂}$	0.006	[0 ; 2.737]	3,934
$V_{PE♀}$	0.01	[0 ; 1.352]	3,934
$V_{PE♂}$	0.006	[0 ; 1.192]	3,495
V_Y	0.077	[0 ; 1.703]	3,934
V_N	0.006	[0 ; 1.672]	3,934
V_R	10	[10 ; 10]	0
DERIVED ESTIMATES			
$h^2_♀$	0.0003	[0 ; 0.065]	3,934
$h^2_♂$	0.0003	[0 ; 0.080]	3,934
T^2	0.0016	[0 ; 0.112]	3,934

Estimates for the selected fixed and random effects are given on the latent scale with the residual variance V_R set to 10. See Table 1 for a detailed description of the fixed effects. For the male categorical status variable (Status ♂), older immigrant males are considered as the group of reference. $V_{A♀}$ and $V_{A♂}$, sex-specific additive genetic variances; $V_{D♀}$ and $V_{D♂}$, sex-specific dominance variances; $V_{M♀}$ and $V_{M♂}$, sex-specific maternal identity variances; $V_{PE♀}$ and $V_{PE♂}$, sex-specific variances associated to the permanent environment effect (individual identities); V_Y, variance associated to the year; V_N, variance associated to the nest box; V_R, residual variance. $h_♀^2$ and $h_♂^2$, sex-specific narrow-sense heritability estimates; T^2, proportion of phenotypic variance explained by the total sex-specific additive genetic effects.

TABLE 4 | Posterior modes and credible intervals of the model explaining the probability to copy in subsequent years.

	Male full model		Female full model		Female final model	
	Post mode	CI (95%)	Post mode	CI (95%)	Post mode	CI (95%)
FIXED EFFECTS						
Intercept	0.632	[−2.789 ; 4.671]	3.148	[−6.048 ; 1.196]	0.036	[−1.099 ; 0.847]
Breeding success y-1 (success)	0.277	[−3.115 ; 3.007]	1.453	[−0.488 ; 4.025]		
Age y-1 (yearling)	0.381	[−0.948 ; 1.786]	0.642	[−0.513 ; 1.868]		
Choice y-1 (copying)	0.43	[−3.204 ; 3.948]	0.455	[−2.573 ; 2.871]	0.124	[−1.265 ; 0.881]
Tit preference than y-1 (same)			1.517	[−0.835 ; 4.699]	1.745	[−0.183 ; 4.199]
Dispersal status (philopatric)			0.819	[−2.506 ; 1.075]		
Dev.symbol (c.f. Table 1)	9.786	[−7.544 ; 34.650]	5.971	[−9.868 ; 22.977]		
Number of past symbol experience	0.285	[−1.299 ; 0.77]	0.324	[−0.287 ; 1.517]		
Choice : tit preference y-1 (copying : same)			3.545	[−6.087 ; −0.281]	2.594	[−5.853 ; −0.152]
Choice * success y-1 (copying * success)	0.476	[−4.459 ; 3.072]	0.153	[−3.406 ; 2.248]		
RANDOM EFFECTS						
V_{PE}	0.008	[0 ; 2.098]	0.055	[0 ; 7.261]	0.017	[0 ; 5.356]
V_Y	0.001	[0 ; 1.198]	0.004	[0 ; 1.362]	0.002	[0 ; 0.968]
V_{patch}	0.006	[0 ; 1.215]	0.009	[0 ; 1.089]	0.007	[0 ; 0.851]
V_R	10.000	[10 ; 10]	10.000	[10 ; 10]	10.000	[10 ; 10]
Effective sample size:		>3,560		>3,642		>3,070

V_{PE}: variance associated to the permanent environment effect (individual identity); V_Y, variance associated to the year; V_{patch}, variance associated to the forest patch; V_R, residual variance, set to 10.
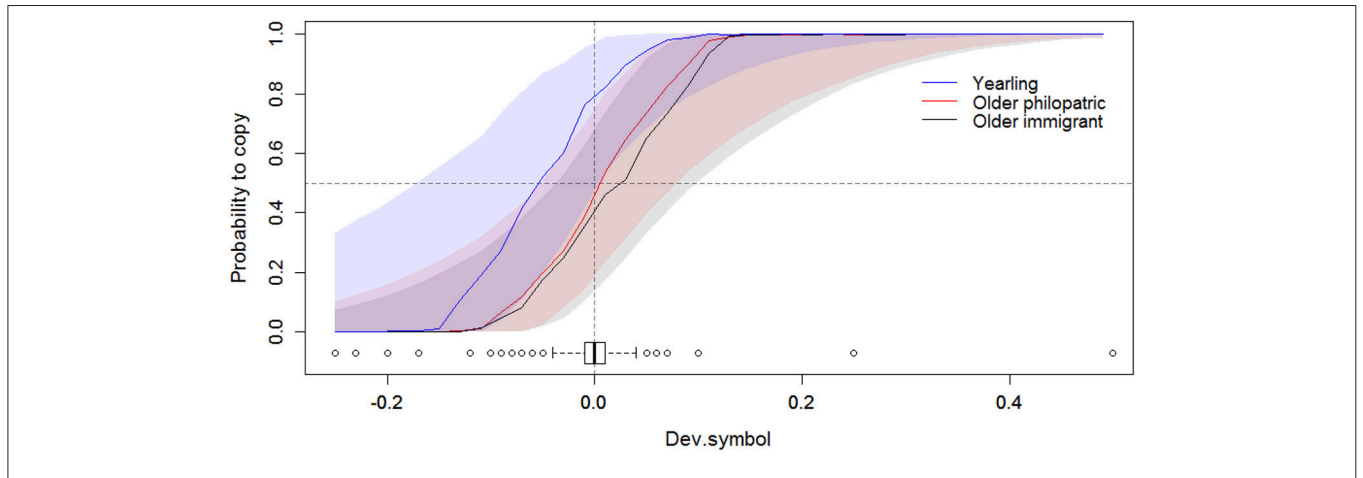
FIGURE 2 | Relationship between the probability to copy and the deviation to an equal proportion of symbols on empty boxes (Dev.symbol, see Table 1) for the different male age and dispersal status (yearling/older immigrant/older philopatric). Positive values of Dev.symbol indicate a prevalence of empty nest boxes with the same symbol as the tit apparent preference. The posterior modes (solid lines) and their 95% Credible Intervals (shades) are given on the original scale, for pairs with a yearling male (in blue), an older philopatric male (in red), or an older immigrant male (in black). The vertical dashed line corresponds to an even proportion of triangles and circles on empty boxes on the day of flycatcher choice. The horizontal dashed line corresponds to a random choice (probability = 0.5). The boxplot represents the distribution of Dev.symbol. There was no interaction between Dev.symbol and the male experience status.
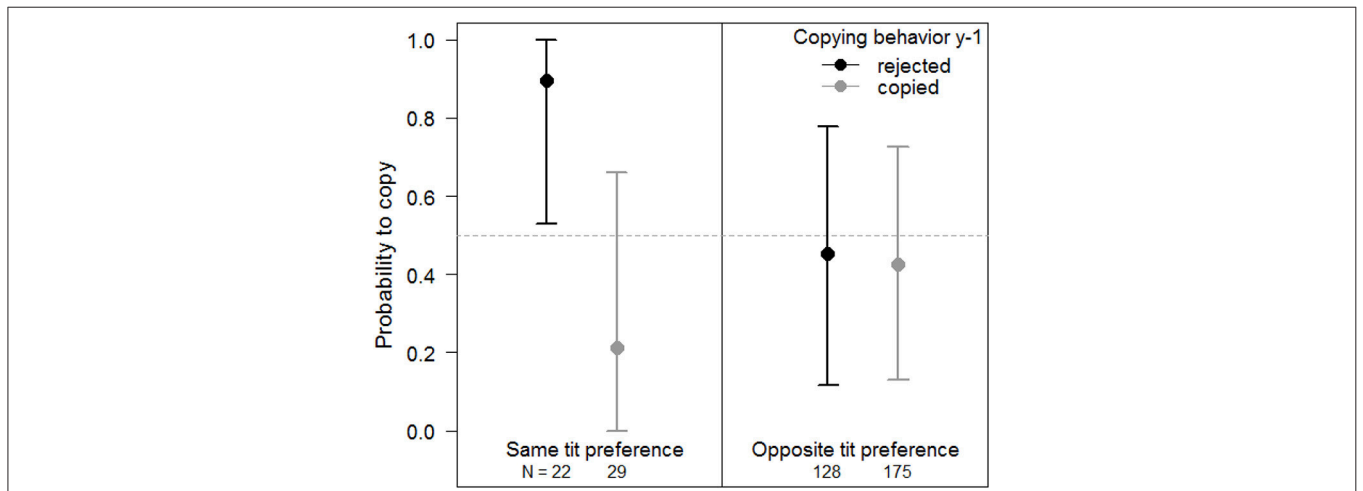
FIGURE 3 | Female probability to copy in subsequent nest site choices, given previous copying behavior and the difference in exposure to the apparent tit preference compared to the previous year. Females were either exposed to the same **(Left)** or opposite **(Right)** apparent tit preference than the year before. Females that rejected (did not copy) the tit preference the year before are represented in black, and females that copied are represented in light gray. Posterior means and 95% CI are given on the original scale. The horizontal dashed line corresponds to a random choice (probability = 0.5). Sample sizes are given at the bottom of each panel. Sample sizes are higher for females exposed to the opposite tit preference because this situation corresponds to both the philopatric females and the females that dispersed to a patch with the opposite symbol.