



Supporting information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Table S1 Primer sequences used for validation of the *KIF1C*:g.27041449G>A mutation using an RFLP.

Figure S1 Genotyping using a PCR-RFLP for *KIF1C*:27041449G>A (c.608G>A) for animals 1–3.

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Mitochondrial DNA variation of Nigerian Muscovy duck (*Cairina moschata*)

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The Muscovy duck (*Cairina moschata*) is a roosting duck originating from tropical regions of Central and South America.¹ A single domestication event has been proposed owing to the low genetic diversity in Muscovy duck groups.² Domesticated Muscovy duck is one of the poultry species classified as an indigenous bird in Africa and one of the most common waterfowl species in Nigeria.³ Herein, we compare the mtDNA haplotypes in Nigerian Muscovy ducks with those in other populations.

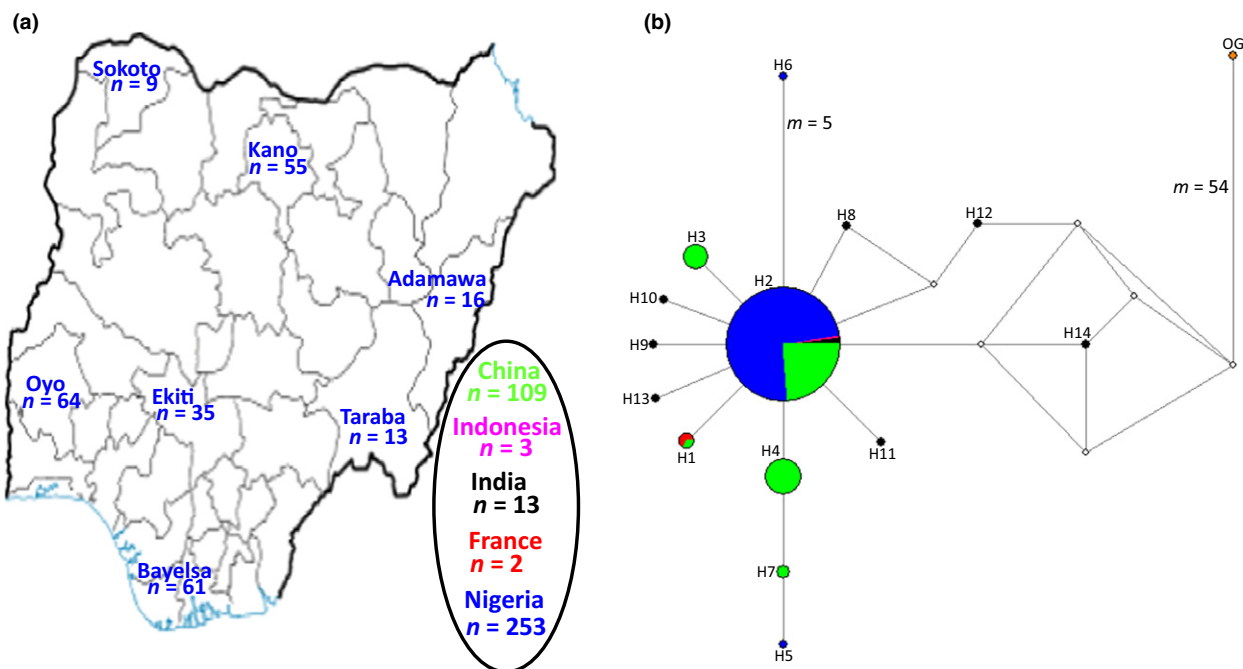


Figure 1 Sampling and network of domesticated Muscovy duck analyzed in this work. (a) Map of individuals sampled and their locations. (b) Median-joining network of 381 domesticated Muscovy duck samples constructed using NETWORK version 4.6.7 The size from each location is indicated. H1–H14 represent haplotypes 1–14. M represents the number of mutation steps whereas those not indicated comprise just one step. Colors are indicated in the figure.

Genomic DNA was extracted from blood samples of 292 domesticated Muscovy ducks from Nigeria ($n = 253$) and China ($n = 39$) (Table S1; Fig. 1a). Our data involved amplification and sequencing of 650 bp mtDNA D-loop (methods detailed in Appendix S1; GenBank accession nos MN942261–MN942265). For comparison with other populations, 459 bp segments were retrieved from 88 published mtDNA sequences^{4,5} (Table S1) and aligned to our sequences. Mallard (*Anas platyrhynchos*) was used as the outgroup.⁶

The 380 sequences defined 14 haplotypes, including two novel sequences from Nigeria (H5 and H6), seven from India (H8–H14) and four previously recorded⁵ (Fig. 1b, Table S2). The Nigerian Muscovy duck samples can be assigned to three haplotypes. The most frequent haplotype, H2, also occurs in Nigerian, Indian, Indonesian and Chinese samples (Table S2). The estimated haplotype diversity of all Nigerian individuals is 0.016 (0.040 in the western region and zero in the other regions), which is lower than in China (0.082, Table S2), most likely because the Chinese samples originated from various sources. Neutrality test (significantly positive values for Tajima's D Fu and Li's D and F and significantly F_s) results indicate that all Nigerian populations, including the western population, experienced a recent population expansion (Table S3), which together with the low diversity, indicates a founder effect. In contrast, non-significant positive values for Tajima's D and Fu and Li's D and F , and significantly positive F_s suggest that the Chinese populations have experienced a recent population bottleneck.

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Appendix S1 Supplemental materials and methods.

Table S1 A total of 380 Muscovy ducks from Nigeria, France, India, Indonesia and China

Table S2 Genetic diversity of domestic Muscovy duck populations

Table S3 Neutrality tests