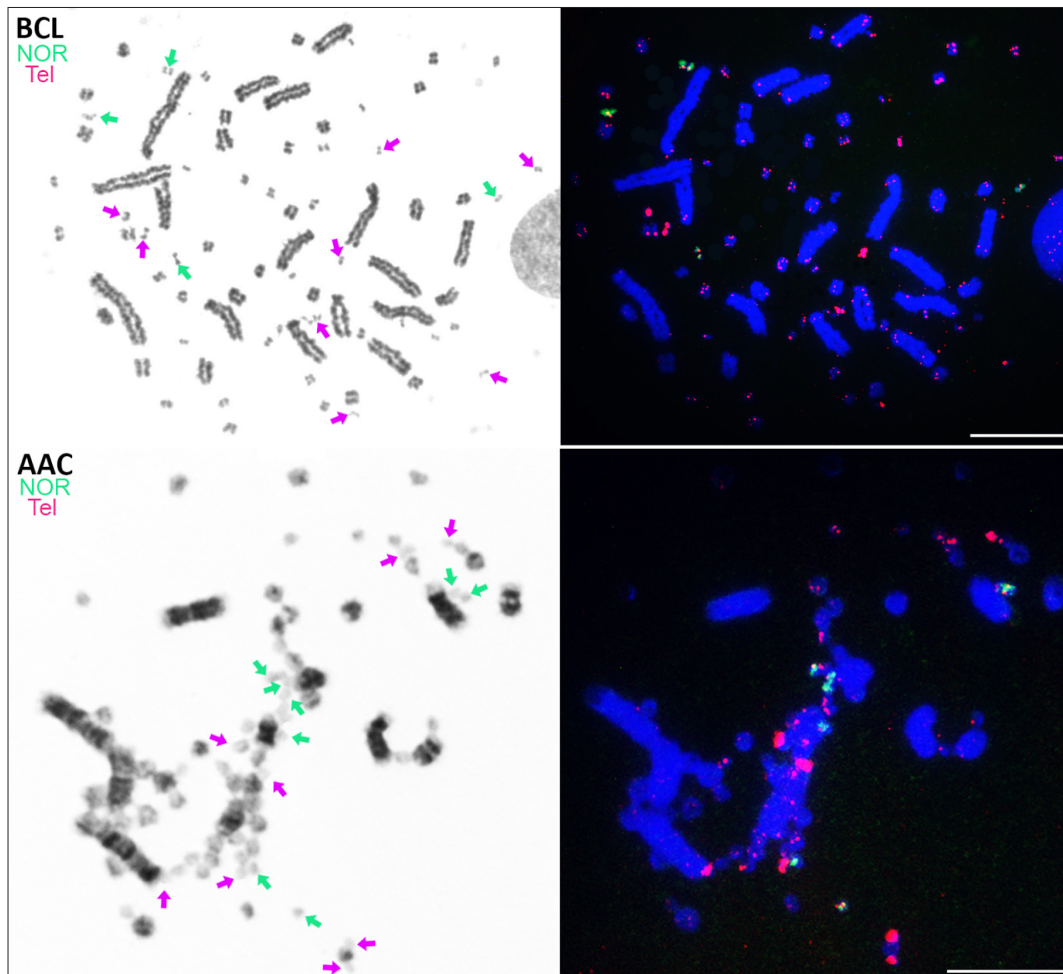


SUPPLEMENTARY MATERIALS

to the article V.R. Beklemisheva, K.V. Tishakova, S.A. Romanenko, D.A. Andreyushkova, V.A. Yudkin, E.A. Interesova, F. Yang, M.A. Ferguson-Smith, A.S. Graphodatsky, A.A. Proskuryakova "Detailed cytogenetic analysis of three duck species (the northern pintail, mallard, and common goldeneye) and karyotype evolution in the family Anatidae (Anseriformes, Aves)"

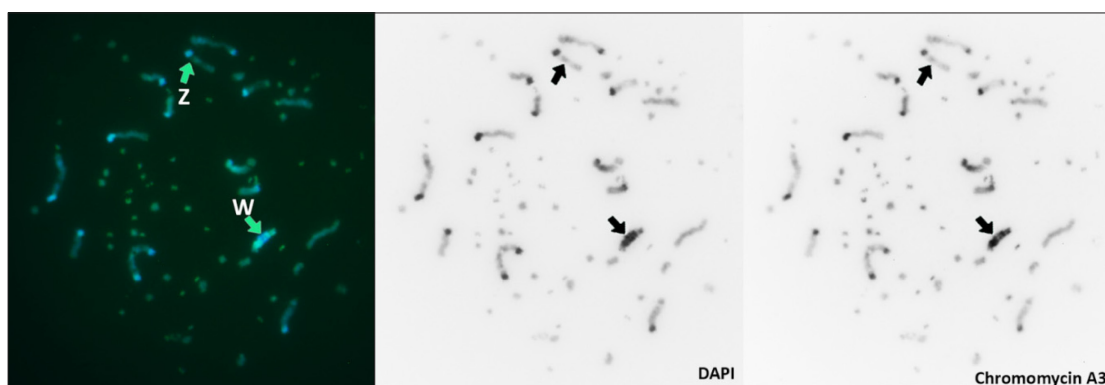
Supplementary Material 1. Localization of ribosomal DNA sequences (NOR) and telomere repeats (Tel) on the chromosomes of *Bucephala clangula* (BCL) and *Anas acuta* (AAC)



Green arrows indicate NORs, and red arrows point to microchromosomes that are completely covered by (TTAGGG)*n* probes. Scale bars 10 μ m.

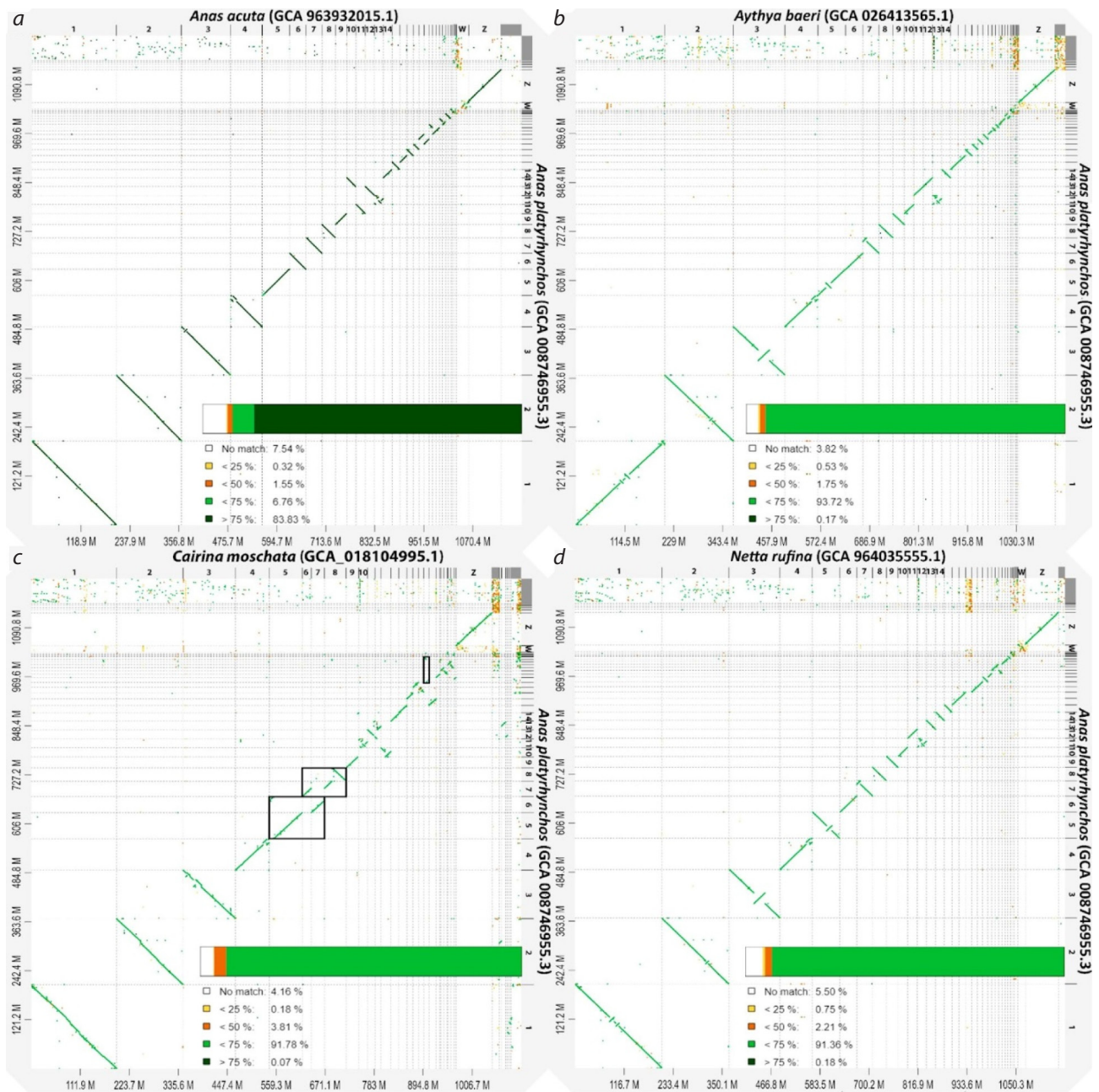
Supplementary Material 2. C-banding (with a modification) in the *Bucephala clangula*.

From left to right: a metaphase plate stained with DAPI and Chromomycin A3 followed by HCl and Ba(OH)₂ treatment, inverted DAPI banding, and inverted Chromomycin A3 banding

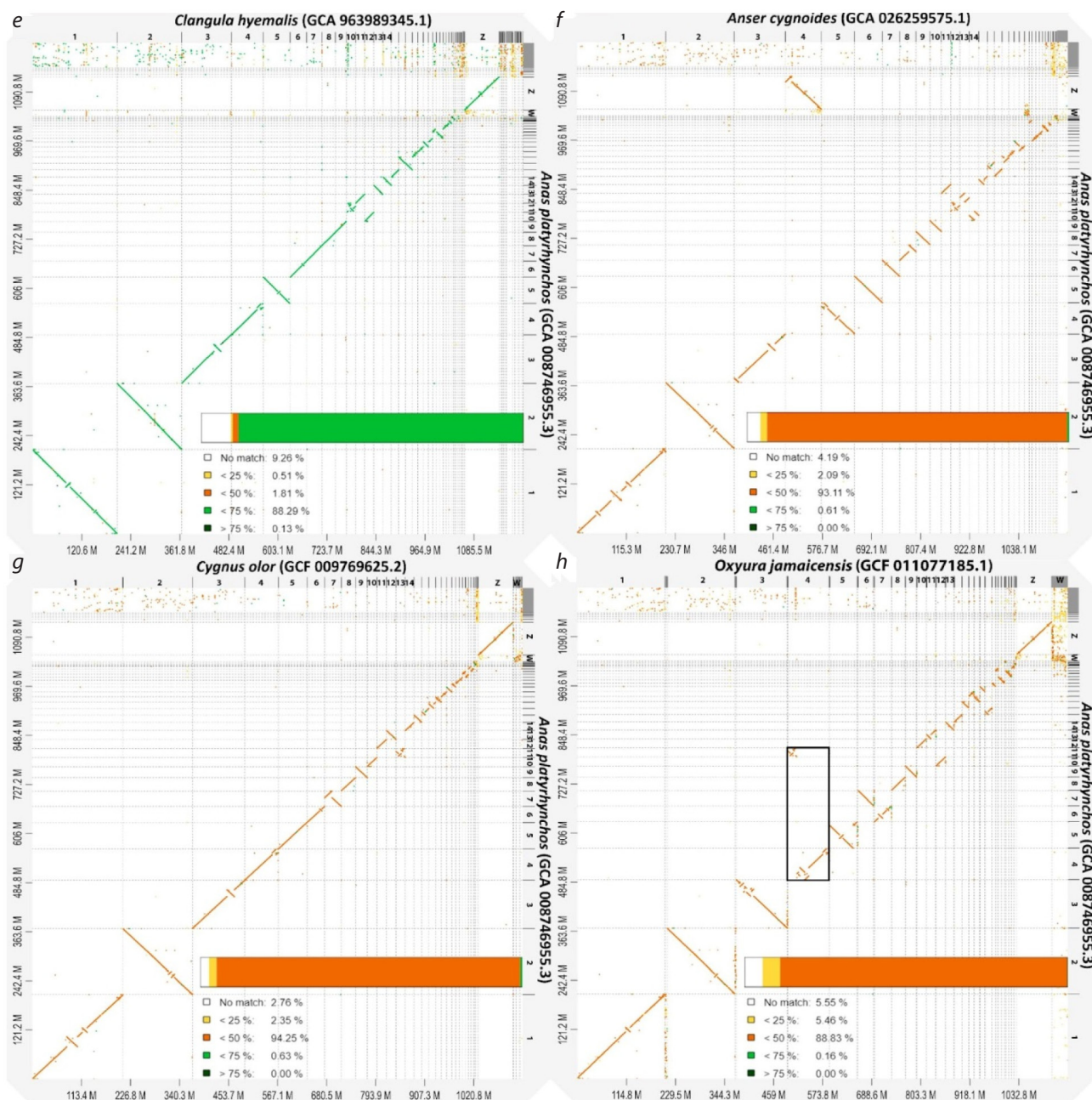


Bright blue blocks contain AT-rich DAPI-positive heterochromatin. Bright green blocks consist of GC-rich Chromomycin A3-positive heterochromatin.

Supplementary Material 3. Dot-plot graphics performed using D-GENIES (Cabanettes, Klopp, 2018) by comparison *Anas platyrhynchos* (GCF_015476345.1) and (a) *Anas acuta* (GCA_963932015.1); (b) *Aythya baeri* (GCA_026413565.1); (c) *Cairina moschata* (GCA_018104995.1); (d) *Netta rufina* (GCA_964035555.1); (e) *Clangula hyemalis* (GCA_963989345.1); (f) *Anser cygnoides* (GCA_026259575.1); (g) *Cygnus olor* (GCF_009769625.2), and (h) *Oxyura jamaicensis* (GCF_011077185.1) genomes



Supplementary Material 3 (end)



The Y-axis represents the *A. platyrhynchos* chromosomes and X-axis represents one of researched species chromosomes. A diagonal straight line indicates synteny among the genomes. The legend represents the level of identity of the aligned sequences. The detected interchromosomal rearrangements are highlighted by frames. Z chromosome is the chromosome 4 in *Anser cygnoides* genome assembly.

Reference

Cabanettes F., Klopp C. D-GENIES: dot plot large genomes in an interactive, efficient and simple way. *PeerJ*. 2018;6:e4958. DOI 10.7717/peerj.4958