

## Hongkai ZHANG

**Phone:** (+86) 17200319160

**E-mail:** hongkaizhang92@126.com

**Birth:** Aug 1992

**ORCID:** 0000-0001-7371-9612

**Research interests:** Evolutionary biology, Molecular biology, Genetics

## EDUCATIONAL BACKGROUND

Sep 2011—Jul 2016	Nanjing Agricultural University	Animal Medicine	Bachelor
Aug 2016—Oct 2018	Lund University	Animal Ecology	Master
Nov 2018—Feb 2023	Lund University	Evolutionary Biology	Ph.D.

## PUBLICATIONS

**Zhang, H.**, Sigeman, H. and Hansson, B., 2022. Assessment of phylogenetic approaches to study the timing of recombination cessation on sex chromosomes. *Journal of evolutionary biology*, 35(12), pp.1721-1733. <https://doi.org/10.1111/jeb.14068>.

**Zhang, H.**, Lundberg, M., Tarka, M., Hasselquist, D. and Hansson, B., 2023. Evidence of site-specific and male-biased germline mutation rate in a wild songbird. *Genome Biology and Evolution*, 15(11), p.evad180. <https://doi.org/10.1093/gbe/evad180>.

**Zhang, H.** and Hansson, B., 2023. *RecView*: an interactive R application for locating recombination positions using pedigree data. *BMC genomics*, 24(1), p.712. <https://doi.org/10.1186/s12864-023-09807-2>.

**Zhang, H.**, Lundberg, M., Ponnikas, S., Hasselquist, D. and Hansson, B., 2024. Male-biased recombination at chromosome ends in a songbird revealed by precisely mapping crossover positions. *G3 Genes/Genomes/Genetics*, jkae150. <https://doi.org/10.1093/g3journal/jkae150>.

Sigeman, H., Ponnikas, S., Videvall, E., **Zhang, H.**, Chauhan, P., Naurin, S. and Hansson, B., 2018. Insights into avian incomplete dosage compensation: sex-biased gene expression coevolves with sex chromosome degeneration in the common whitethroat. *Genes*, 9(8), p.373. <https://doi.org/10.3390/genes9080373>.

Sigeman, H., Strandh, M., Proux-Wéra, E., Kutschera, V.E., Ponnikas, S., **Zhang, H.**, Lundberg, M., Soler, L., Bunikis, I., Tarka, M. and Hasselquist, D., 2021. Avian neo-sex chromosomes reveal dynamics of recombination suppression and W degeneration. *Molecular biology and evolution*, 38(12), pp.5275-5291. <https://doi.org/10.1093/molbev/msab277>.

Sigeman, H., **Zhang, H.**, Ali Abed, S. and Hansson, B., 2022. A novel neo-sex chromosome in *Sylvietta brachyura* (Macrosphenidae) adds to the extraordinary avian sex chromosome diversity among Sylvioidea songbirds. *Journal of evolutionary biology*, 35(12), pp.1797-1805. <https://doi.org/10.1111/jeb.14096>.

Sigeman, H., Downing, P.A., **Zhang, H.** and Hansson, B., 2024. The rate of W chromosome degeneration across multiple avian neo-sex chromosomes. *Scientific Reports*, 14(1), p.16548. <https://doi.org/10.1038/s41598-024-66470-7>.

**Bachelor thesis:** Reconstruction of recombinant *Escherichia coli* antigens Skp, MipA, Fadmt

**Master thesis:** Phylogenetic analysis of neo-sex chromosome genes in Sylvioidea passerine birds

**Doctoral thesis:** Genomic studies of sex differences: On mutations, recombination, and sexual dimorphism in songbirds

## MEETINGS

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Poster: Timing of recombination cessation of neo-sex chromosomes in Sylvioidea birds.

Graduate Research School in Genomic Ecology (GENECO) summer meeting, Höör, Sweden, August 2019.

Oral presentations: Assessment of alternative phylogenetic approaches to study the timing of recombination cessation. Congresses of the European Society for Evolutionary Biology (ESEB), Virtual meeting, August 2021.

Estimating the mutation rate in the great reed warbler (*Acrocephalus arundinaceus*). Biology in Lund Annual Meeting (BLAM), Lund, Sweden, April 2022.

Locating recombination events using three-generation pedigree of great reed warbler (*Acrocephalus arundinaceus*). Graduate Research School in Genomic Ecology (GENECO) summer meeting, Höör, Sweden, August 2022.

## FUNDINGS

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2020—2022 The Nilsson-Ehle Endowments, Royal Physiographic Society of Lund

2022—2024 The Nilsson-Ehle Endowments, Royal Physiographic Society of Lund

## SKILLS

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Good command of using Linux OS, R language programming and statistical analysis. Experience in using high-performance computers, *e.g.*, UPPMAX.

Experience in experiments of animal dissection and molecular biology.

Experience in writing academic papers.

## AWARDS

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2012—2013 First-prize Scholarship (Nanjing Agricultural University)

2012—2013 National Scholarship (China)

2013—2014 National Scholarship (China)

2015—2016 Outstanding graduate prize (Nanjing Agricultural University)

2017—2018 Lund University Global Scholarship