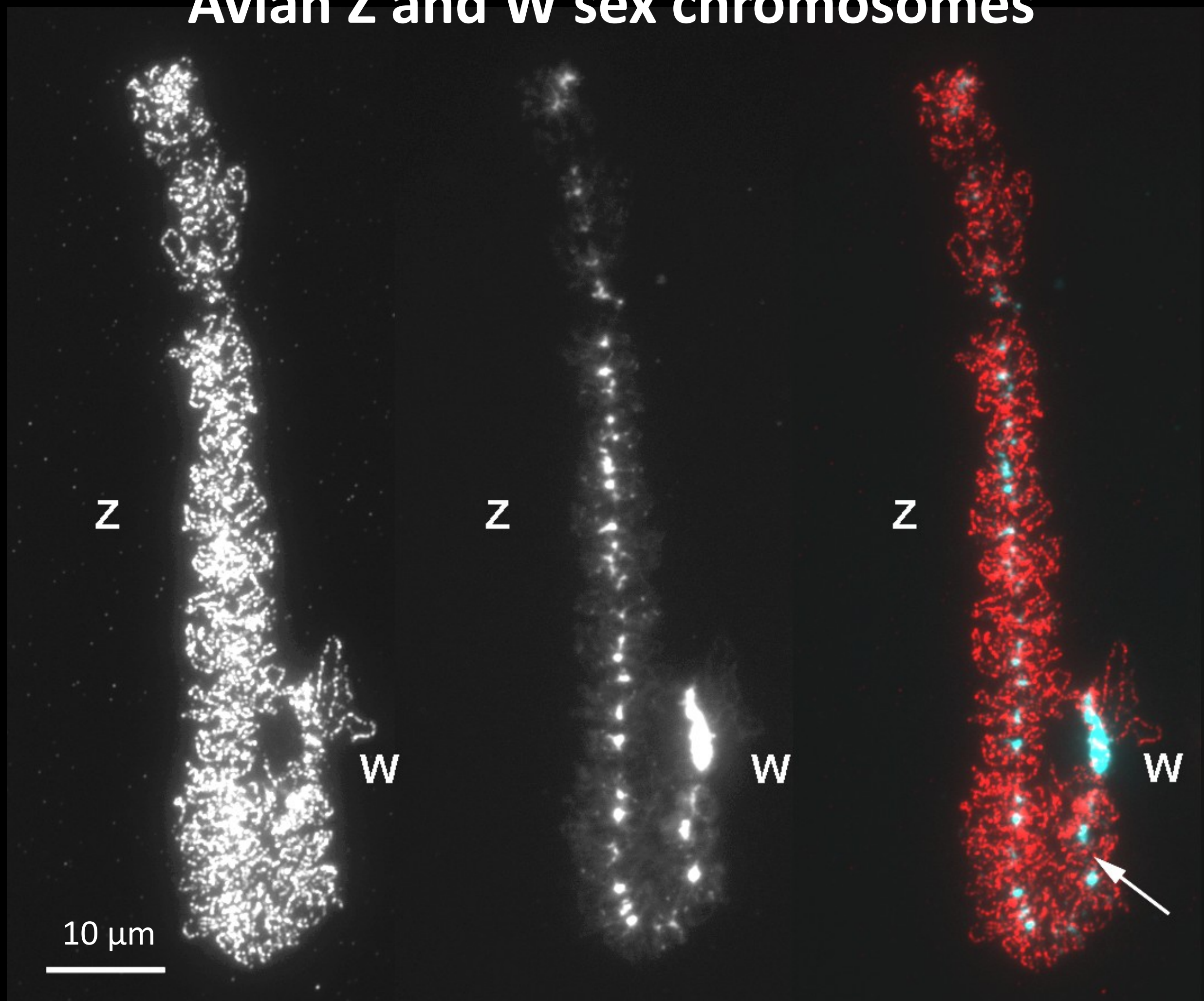




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### Avian Z and W sex chromosomes



ZW lampbrush sex bivalent of Japanese quail form an asymmetrical bivalent with a single chiasma (arrow). Chromosomes are counterstained with DAPI, which shows the blue chromomeres of the Z axis and the condensed W chromosome. In the chicken ZW bivalent, the Z chromosome exhibits normal lampbrush morphology, whereas the W chromosome is predominantly condensed and packed into several dense chromomeres with only a few lateral loops.

The right hand image shows Immunodetection of elongating form of RNA polymerase II with hyperphosphorylated C-terminal domain (red signal) in the axes of lateral loops. Z and W sex chromosomes in the lampbrush form offer exceptional opportunities for investigating some important problems of vertebrate sex determination.