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Y chromosome shredding in *Anopheles gambiae*: Insight into the cellular dynamics of a novel synthetic sex ratio distorter

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Y chromosome labelling in mitotic chromosomes from *Anopheles gambiae* testis.

In this image, two *Anopheles gambiae* Y-linked satellite elements, AgY53B (Green) and AgY53A (Red), have been stained using DNA FISH on male gonial cell metaphase chromosomes. The CRISPR/Cas9 system was used to specifically target the satellite AgY53B during male meiosis, causing extensive damage to the Y chromosome. This damage results in Y-bearing sperm being unable to fertilize eggs while X-bearing sperm remain intact and viable. As a result, a strong bias toward female offspring is observed in the progeny of transgenic males.

Image credit: Matteo Vitale