Meiosis reveals the early steps in the evolution of a neo-XY sex chromosome pair in the African pygmy mouse Mus minutoides

Ana Gil-Fernández, Paul A. Saunders, Marta Martín-Ruiz, Marta Ribagorda, Pablo López-Jiménez, Daniel L. Jeffries, María Teresa Parra, Alberto Viera, Julio S. Rufas, Nicolas Perrin, Frederic Veyrunes, Jesús Page

Meiosis and sex chromosome evolution.
The early stages of sex chromosome evolution are notoriously difficult to study. The meiotic behavior of neo-sex chromosomes reveals how some of the first steps of this evolution can be achieved and how they may even depend on the special requirements of meiosis. The image shows a diplotene spermatocyte of the African pygmy mouse Mus minutoides immunolabeled for protein SYCP3 (green), centromeres (pink) and histone γH2AX (blue).

Image credit: Ana Gil-Fernández and Jesús Page.