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Session	The X - an exceptional chromosome! (P-700 to P-710)
<p>The genus <i>Rumex</i> as a study model of sex chromosome evolution in plants Rafael Navajas-Pérez, Manuel Ruiz Rejón, <u>Manuel Garrido-Ramos</u>. Genetics, University of Granada, Granada, España.</p> <p>Here, we introduce the genus <i>Rumex</i> (Polygonaceae) as a model for studying of key topics on evolutionary biology such as the origin and evolution of dioecy and of sex chromosomes in plants. For this, we draw from different approaches including molecular phylogenetics, satellite-DNA evolution, and cytogenetic analyses. Contrary to the predictions of morphological classifications, all dioecious species of <i>Rumex</i> have a single origin about 15 million years ago with gynodioecy possibly being an intermediate state on the way to dioecy. Within dioecious species, there are two monophyletic groups, one composed of species with a XX/XY sex chromosome system (Y determination) and a derived one composed of XX/XY1Y2 (X/A determination) species. The XX/XY species represent an early stage of genetic differentiation between sex chromosomes, contrasting with the advanced state of differentiation between the X and the Y of XX/XY1Y2 species. In addition, these latter species have undergone a process of Y degeneration accelerated for the accumulation of satellite-DNA sequences and retrotransposons. The satellite-DNA sequences have differentiated patterns of sequence evolution when located in sex chromosomes or in autosomes and their study is useful for the analysis of the chromosomal rearrangements leading to sex chromosomes in different species.</p>	