

Comparative cytogenetic mapping of chromosomes bearing rDNA sites in *Passiflora* subgenus *Passiflora* (Passifloraceae)

Dias-Silva, Y.K.¹; Sader, M.A.¹; Munhoz, C.²; Vieira, M.L.²;
Pedrosa-Harand, A.¹

Abstract/Resumo

The genus *Passiflora* L. comprises around 500 species with different haploid numbers ($n = 6, 9, 10$ e 12) and variability in the number of ribosomal DNA sites (rDNA). The subgenus *Passiflora* Juss. is one of the most diverse and includes several species of economic importance, such as *Passiflora edulis* and *Passiflora alata* Curtis, as well as *Passiflora watsoniana* Mast., which is endemic to Northeastern Brazil. These three species present $2n = 18$ and two (*P. edulis*, *P. alata*) or three (*P. watsoniana*) pairs of 35S rDNA sites. In *P. edulis*, these sites are located in chromosomes 7 and 8, identified by fluorescent in situ hybridization (FISH) with chromosome-specific bacterial artificial chromosomes (BACs). With the aim of investigating the conservation of synteny between these species, we used FISH with BACs 173B16 and 164M13, markers for chromosome 7 and 8, respectively, followed by FISH with rDNA. As previously observed in *P. edulis*, 35S rDNA sites were observed in opposite arms to the BAC markers of chromosome 7 and 8 of both, *P. alata* and *P. watsoniana*. In *P. alata*, the 35S rDNA was observed in the short arm of chromosome 7 and in the long arm of chromosome 8, as in *P. edulis*. In *P. watsoniana*, however, the 35S rDNA was located in the long arm of three chromosome pairs, two of them confirmed as chromosomes 7 and 8. The change between short and long arms in the chromosome 8 of *P. watsoniana*, as well as the presence of an extra rDNA site, is compatible with its phylogenetic distance and indicates karyotypic changes even among species with $n = 9$ in the *Passiflora* subgenus.

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¹ Laboratory of Plant Cytogenetics and Evolution, Department of Botany, Federal University of Pernambuco, Recife, Brazil, yhannandra@hotmail.com

² Department of Genetics, Luiz de Queiroz College of Agriculture, University of São Paulo, Piracicaba, Brazil