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CYTOGENETIC COMPARISONS AMONG APIACEAE USING FLUORESCENCE *IN SITU* HYBRIDIZATION

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Chromosome locations and distribution patterns of the ribosomal genes were assessed in several Apiaceae using double-colour fluorescence *in situ* hybridization (FISH). *Apioideae* species of economic importance (*Anethum graveolens*, *Carum carvi*, *Cumin cyminum*, *Daucus carota*, *Foeniculum vulgare*, *Pastinaca sativa*, *Petroselinum crispum*, *Pimpinella anisum*, *P. saxifraga*) and some of their wild relatives (*e.g. Orlaya grandiflora* and nine *Daucus* species) were included in the study. Interspecific variation was found both for number and chromosomal location of the rRNA gene loci. The number of chromosome pairs bearing NORs varied from one (*e.g. D. carota*, *P. crispum*) to two (*e.g. P. sativa*, *C. cyminum*) to four (*D. guttatus*). Three 45S (NOR) hybridization signals were visible in *O. grandiflora*, two of which located on the short arm of one pair of homologous subtelomeric chromosomes, and the odd weaker signal in hemizygous condition was detected on the short arm of one metacentric chromosome. One chromosome pair carrying the 5S site was detected in all the species, except in *P. saxifraga*, where four 5S sites were observed.

Linkage association between 5S and NOR sites was observed only in *Carum carvi*. The distinctive hybridization sites of the rRNA genes provided useful cytogenetic markers for the identification of several chromosomes. Based on arm ratio and chromosome landmarks, tentative karyotype description for several of the species will be presented.