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## Chromosome studies in *Spiranthinae* and *Cranichidinae* (Orchidaceae)

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The subtribe *Spiranthinae* Lindl. comprises about 40 genera and 470 species almost exclusively restricted to the Neotropics, except for the cosmopolitan genus *Spiranthes* Rich. *Cranichidinae* Lindl. has 16 genera and about 210 genera, all of them endemic to the Neotropics. There are few cytotaxonomic studies on *Spiranthinae*, and these are concentrated especially on the genus *Spiranthes*. On *Cranichidinae*, chromosome counts are reported only for *Ponthieva mandonii* Rchb.f. and six species of *Prescottia* R.Br. The aim of the study was to find chromosome numbers of eight species of *Spiranthinae* and two of *Cranichidinae*, contributing to establish the differentiation of the genera. Mitotic studies were performed in root tips, collected from samples cultivated in the greenhouse of the “Núcleo de Pesquisa Orquidário do Estado/ Instituto de Botânica” (São Paulo, Brazil) and of “Herbário AMO” (Mexico City, Mexico), pretreated with 8-hydroxyquinoline (8-Hq) for 24 h at 4 °C or for 5 h at 18 °C and fixed in Carnoy. The cells were stained with Giemsa for the Brazilian specimens and according to the Feulgen technique for the remaining specimens. Seven chromosome records are presented for the first time: *Dichromanthus aurantiacus* ( $2n = 40$ ), *Eltroplectris calcarata* ( $2n = 42$ ), *Sarcoglottis richardiana* ( $2n = 50$ ), *S. rosulata* ( $2n = 36$ ), *S. schaffneri* ( $2n = 46$ ), *Ponthieva andicola* ( $2n = 48$ ) and *P. pilosissima* ( $2n = 50$ ). For *Mesadenella cuspidata* ( $2n = 38/42$ ) a new cytotype was found. In addition, ideograms of five Brazilian species are presented for the first time, indicating the possibility of distinction at generic level using karyological data.

**Key words:** chromosome number, cytotaxonomy, ideogram, *Spiranthinae*, *Cranichidinae*, Orchidaceae.

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