



Nationaal Herbarium Nederland



The Linnean Society of  
London

Plant species-level systematics: patterns, processes and new applications  
A 3-day international symposium from 13 to 15 November 2002 in Leiden, The Netherlands

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## Abstracts

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### Studies on Brazilian grasses and sedges

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Poster — The family Poaceae includes c. 650 genera and 10,000 species, according Watson & Dallwitz (The grass genera of the world, 1992). According to Burman (Willdenowia 15, 1985) c. 200 genera and 1,400 species occur in Brazil. Luceño & Alves (Candollea 52/1, 1997) cited 100–120 genera and c. 5,000 species of Cyperaceae of which c. 44 genera and 500–600 species for Brazil. Most of the taxonomical and floristic studies on these two families in Brazil have been based on a classical morphological approach. In the last decade other approaches started to be used in the revisions of several genera in Brazil as well as monographic worldwide studies at generic and infrageneric levels. Besides the macromorphological approach, other evidences are being used such as leaf anatomy, micromorphology of fruit surface in SEM and DNA sequencing. Leaf anatomy and micromorphology of the fruit surface are providing more useful taxonomic characters in Poaceae than in Cyperaceae at infraspecific level and interspecific relationships. The nine species of *Cyperus* L. subg. *Anosporum* (Nees) Clarke from Rio Grande do Sul, Brazil, studied by Araujo & Longhi-Wagner (Iheringia 48, 1997) could be differentiated by leaf anatomy and fruit surface ornamentation. The proposal of a modification of the circumscription of *Rhynchospora* sect. *Pluriflorae* Kük. (Cyperaceae) was based in a cladistic analysis combining macromorphological and anatomical (leaf) data. DNA sequencing was used to define the circumscription of *Rhynchospora consaguinea* Kunth Complex (Araujo, PhD thesis, 2001). Although the leaf anatomy and the ornamentation of fruit surface in Brazilian species of *Andropogon* L. (Poaceae) were quite homogeneous, it was possible to use these characteristics to separate some macromorphologically very similar species (Zanin, PhD thesis, 2001). In the genus *Digitaria* Haller (Poaceae), leaf anatomy also gave support to define the circumscription of similar species (Canto-Dorow, PhD Thesis, 2001). The study of *Panicum* L. subg. *Panicum* (Poaceae) and the revision of *Raddia* A. Bertoloni (Poaceae) and related genera are being carried out using macromorphology, leaf anatomy, analysis of the upper lemma surface in SEM and DNA sequencing. A molecular approach (DNA sequencing and RAPD markers) is being used in the genus *Paspalum* L. (Poaceae) to analyse the circumscription of some groups and the genetic variability in these groups. The change in approach represents a substantial progress in these taxonomic studies. The improved results fully justify the efforts and investments in this area. On the other hand, floristic surveys

of grasses and sedges in different areas of Brazil continue to be done, and the traditional methods are still extremely important for the much needed general floristic work in countries like Brazil.