7. Chromosome numbers

by J.C. Arends

The 2n chromosome numbers as found in the various species are presented in Table 8. At present, there is karyological information on African taxa only. The information pertains to 10 out of 50 species and 6 out of 10 genera recognized in this study.

The numbers indicate that there are two groups, one group comprises taxa with 2n = 32 and the other 2n = 28 or, in a single case 2n = 26.

In 1976 I presented evidence that *Hemandradenia chevalieri* has 2n = 32 (see Eimunjeze, 1976). At that time it was suggested that there might be infraspecific

Table 8. Chromosome numbers in species of *Connaraceae* ˙

	2n	Reference
1. *Agelaea paradoxa* Gilg [as *Castanola paradoxa* (Gilg) Schellenb.]	28	Mangenot*
2. *A. pentagyna* (Lam.)Baill. [as *A. obliqua* (P. Beauv.)Baill.]	28	Mangenot*
idem coll. de Koning 615, Ivory Coast	28	⁕
3. *Cnestis ferruginea* Vahl ex DC.	28	Mangenot*
4. *Connarus griffonianus* Baill. coll. Breteler 9011, Gabon	c. 32	⁕ ⁕
5. *Hemandradenia chevalieri* Stapf	28	Mangenot*
idem	32	Arends**
6. *Manotes expansa* Sol. ex Planch. [as *M. longiflora* Baill.]	26	Mangenot*
7. *M. griffoniana* Baill. coll. Breteler 8537, Gabon	28	⁕ ⁕
8. *Rourea coccinea* (Thonn. ex Schum.)Benth. [as *Byrsocarpus coccineus* Schum. et Thonn.]	28	Mangenot*
idem, coll. Breteler 8542, Gabon	c. 28	⁕
9. *R. minor* (Gaertn.)Alston [as *Santaloides afzelii* (R. Br.)Schellenb.	28	Mangenot*

⁕ = new data, ⁕ ⁕ = species investigated for the first time
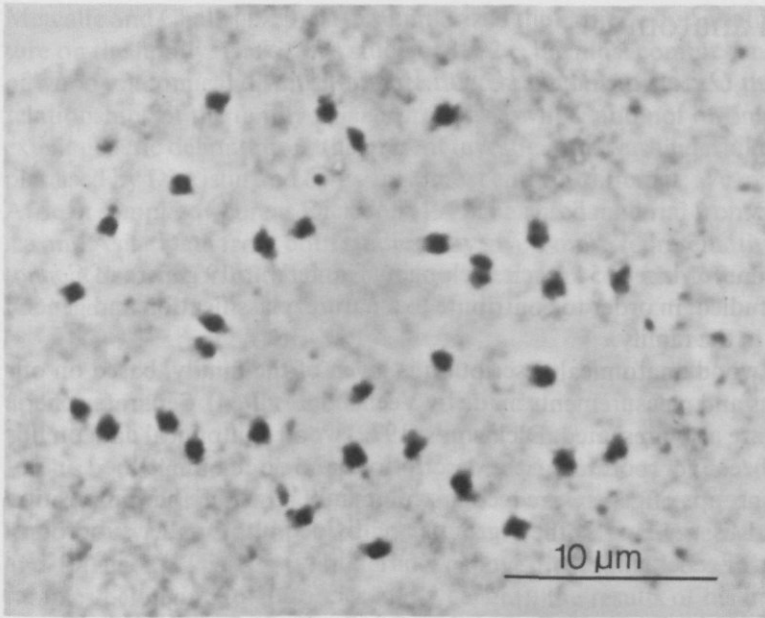* = Mangenot & Mangenot, 1962; ** = Arends in Eimunjeze, 1976

Fig. 35. *Hemandradenia chevalieri*: Metaphase plate in root tip cell, 2n = 32.

chromosomal variation in that species, as Mangenot & Mangenot (1959, 1962) reported 2n = 28. *H. chevalieri* belongs to the tribe *Connareae*, of which *Connarus griffonianus* has 2n = 32 as well. It is possible that the count of 2n = 28 by Mangenot & Mangenot (op. cit.) is either a misinterpretation of the cells analyzed, or has been found in a seedling of another species. This cannot be verified as these authors did not refer to any collection. In the two root tips of a single young seedling of *Connarus griffonianus* 2n = 31 and 2n = 34 has been counted as well. The preparation was rather difficult of analysis, and further material is needed before it can be ascertained that its chromosome number is 2n = 32 indeed.

The remainder of the species listed in the Table belong to either the tribe *Manoteae* or *Cnestideae*. These sections are characterized by 2n = 28.

The somatic chromosomes of the *Connareae* have a length ranging from c. 0.5 to 1 μm (see Fig. 35), reproduced from Eimunjeze, 1976), whereas those seen in the present study in the *Manoteae* and *Cnestideae* range from c. 1 to 2 μm. Thus it appears that the karyotype in the *Connareae* differs from that in the other tribes in both number and length of the chromosomes.

Although the present evidence is far from conclusive, it could be postulated that 2n = 32 represents a derived chromosomal condition, as it is found in the tribe that is characterized by quite a few other advanced character states (see paragraph 10.1). Further investigation is needed to support this hypothesis.